2.0 PROPOSED SAMP/WSAA PROCESS AND ALTERNATIVES

2.1 OVERVIEW OF THE PROPOSED SAMP AND WSAA PROCESS

This SAMP is comprised of the following four components:

- Analytical Framework;
- Watershed-specific Permitting Processes including mitigation framework;
- Strategic Mitigation Plan; and
- Mitigation Coordination Program.

The first component of this SAMP is an Analytical Framework, which is based on technical information about aquatic resources, primarily the riparian ecosystem, in the Watershed. The Corps, along with the Department, developed the Analytical Framework as a decisionmaking tool for evaluating regulated activities that would affect aquatic resources. The second SAMP component is a modified permitting process, including the Department's WSAA Process that is watershed- and resource-based and derived from the Analytical Framework. This regulatory component of the SAMP also includes a mitigation framework. Related is the third component of the SAMP, a Strategic Mitigation Plan, which is based on a Watershed riparian ecosystem restoration plan. The fourth component is the Mitigation Coordination Program to help implement and coordinate long-term management of aquatic resources under the Strategic Mitigation Plan. Together, the Strategic Mitigation Plan and Mitigation Coordination Program support implementation of the mitigation framework and foster a coordinated approach among local landowners/managers and stakeholders to aquatic resource management within the Watershed.

These four SAMP components are discussed in detail in the Corps *Special Area Management Plan for the San Diego Creek Watershed* (Corps, 2008) referred hereafter as the Corps SAMP document, and summarized in this EIS/EIR in Sections 2.1.1 through 2.1.4. Figure 2-1 provides an overview of the SAMP that illustrates how the four components are integrated and lists the main elements involved in each component.

2.1.1 SAMP Analytical Framework

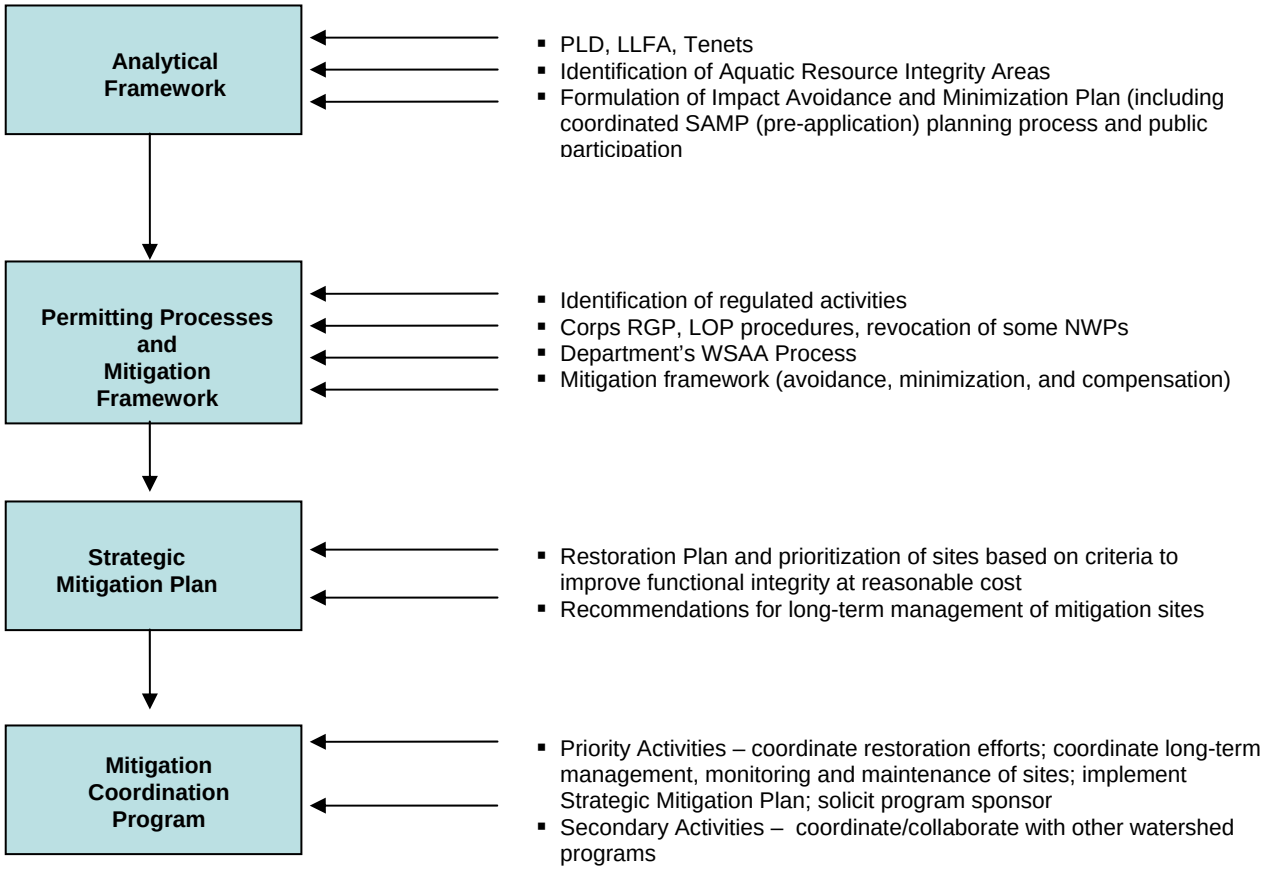
The SAMP Analytical Framework includes scientifically based methodologies for the identification and characterization of aquatic resources in the Watershed; an evaluation of aquatic resources in consideration of proposed and reasonably foreseeable activities in the Watershed that would impact aquatic resources, and an impact avoidance and minimization plan sensitive to aquatic resources. This Analytical Framework has and will continue to be used to inform the Corps and the Department in their impact evaluations of regulated activities in the Watershed.

The following sections summarize two key scientific studies of the Analytical Framework. These include two comprehensive landscape-level analyses of existing aquatic resources within the Watershed that the Corps conducted and subsequently adopted: 1) a Planning Level Delineation (PLD); and 2) a Landscape Level Functional Assessment (LLFA). The results of these studies were used to identify SAMP Tenets which are scientifically based conservation principles that guided the Corps and the Department in formulating the SAMP.

2.1.1.1 Planning Level Delineation

A PLD of aquatic resources, including a geospatial analysis, was conducted throughout the Watershed utilizing expertise from the Corps Cold Regions Research and Engineering Laboratory (CRREL) (Lichvar, 2000). The PLD involved extensive fieldwork and the use of aerial photography to identify aquatic resources (probable jurisdictional waters of the U.S., including lakes, streams and wetlands[1]) at the landscape level (not at site-specific level). The PLD is applicable for watershed-based planning and evaluation purposes, but is not intended to replace the need for or role of a site-specific delineation. The PLD is provided in Appendix B-1 and described in more detail in Section 3.1 of this document.

Figure 2-1. Overview of San Diego Creek Watershed SAMP



[1] Includes both Corps and Department's probable jurisdictional areas. Mapped riparian corridor is lateral extent of Department's probable jurisdiction; Corps jurisdiction is likely a subset of this extent.

2.1.1.2 Landscape Level Functional Assessment

A LLFA was conducted utilizing expertise from the Corps Engineering Research and Development Center (ERDC) to characterize the functional integrity of the Watershed aquatic resources (Smith, 2000). For the SAMP, the Corps and the Department focused primarily on riparian ecosystems.[2] Three metrics were identified to represent riparian ecosystem integrity: 1) hydrologic, 2) water quality, and 3) habitat. Based on extensive fieldwork, the various riparian reaches within a drainage basin were assigned numerical ratings that categorized areas as high, medium or low quality integrity for hydrology, water quality and habitat.

The LLFA is a relatively new multi-scale based method of evaluating the condition of a watershed at the landscape level, and does not reflect detailed, site-level information at the watershed's present condition. The landscape level nature of resources performed for this SAMP baseline represent a snapshot of the Watershed at the time the SAMP was initiated. The assessment supplements the routine evaluations conducted by the Corps and the Department as part of their standard operating procedures. The LLFA for the Watershed is provided in Appendix B-2. Section 3.1 describes the LLFA in greater detail and provides the map depicting habitat integrity ratings for existing conditions. Hydrologic and water quality integrity rating maps are provided in Sections 3.3.3 and 3.4.8 respectively.

After completion of the PLD and LLFA, the Corps and the Department conducted field inspections to verify the findings of the PLD and LLFA.

2.1.1.3 SAMP Tenets

The SAMP Tenets are overarching, guiding principles for the Watershed based on the knowledge of the Watershed's resources obtained through the baseline assessments. The Corps and Department identified these important scientific elements which, if adhered to, would ensure the goals and objectives of the SAMP (outlined in Section 1.2.1.1) are met. The SAMP Tenets go beyond the standards and criteria that are expressly contained in the Corps and the Department's standard operating procedures. The SAMP Tenets provide a method of evaluating potential impacts and inform the Corps and the Department in their efforts to achieve the respective goals of the CWA (i.e., of protecting the biological, chemical, and physical integrity of waters of the U.S.) and the FGC (i.e., to avoid impacts to fish and wildlife that use the State's lakes, rivers and streams). The SAMP Tenets are listed below and include a discussion of the relationship between the functional assessment and the tenets.

(a) No Net Loss of Acreage and Functions of Waters of the U.S.

Federal and state policy calls for no net loss of wetland acreage and functions. Because the SAMP focuses on riparian ecosystems within the Watershed, which encompass both the Corps and the Department's jurisdictions, the no net loss policy is interpreted here in a manner that is ecologically comprehensive in that it addresses functional riparian ecosystems as well as wetlands. Unique to the SAMP is the consideration given to the correlation between activities and land cover within a riparian

[2] Since water is the primary limiting ecological factor in the Southwestern U.S, riparian corridors are important resources in the landscape. Therefore, by their very nature, riparian systems are capable of supporting a diverse number of species within the landscape. Riparian corridors provide foraging, cover, and nesting/breeding habitat for fish and wildlife. They are conduits for many aquatic, riparian, and upland species, and are important elements of aquatic resource conservation.

reach and its local drainage basin, and the resulting effects in the riparian portion of the reach and downstream areas. Thus, for the SAMP, the evaluation of no net loss applies to riparian areas (or GIS polygons) within the Watershed, as mapped for the PLD. Riparian areas include, but are not limited to, streams and creeks (per USGS topographical maps) that were mapped as lines in the PLD. The goal of no net loss can be accomplished through the application of a hierarchical process of avoidance and minimization of impacts, and compensatory mitigation, a procedure common to any Section 404 action and often referred to as the "mitigation sequence" required by the 404(b)(1) Guidelines (40 CFR 230.10).

(b) Maintain/Restore Hydrologic, Water Quality, and Habitat Integrity

Riparian ecosystems with high hydrologic integrity exhibit the range of frequency, magnitude, and temporal distribution of stream discharge, and surface and subsurface interaction between the stream channel, floodplain, and terraces that historically characterized riparian ecosystems in the region (Smith, 2000). Water quality integrity was defined as exhibiting a range of loading in the pollutant categories of nutrients, pesticides, hydrocarbons, and sediments that are similar to those that historically characterized riparian ecosystems in the region. Riparian ecosystems with habitat integrity exhibit the quality and quantity of habitat necessary to support and maintain a balanced, integrated, adaptive biological system having the full range of characteristics, processes, and organisms at the site-specific, landscape, and watershed scales that historically characterized riparian ecosystems in the region. In managing the aquatic resources in a watershed, the goal is to maintain the integrity of these systems and to restore the integrity of these resources wherever possible. Management of these aquatic resources should strive to conserve and restore riparian corridors with high hydrologic, water quality, and habitat integrity. This tenet strongly correlates with other parameters such as the floodplain connectivity, riparian corridor continuity, and sediment regime because riparian reaches that would rate high for riparian ecosystem integrity would also rate high for these other parameters.

(c) Protect Headwaters Areas

The conventional definition of headwaters is the most upstream segments of the main channel of a stream. For the purposes of the SAMP, the Corps and the Department have defined the term more narrowly, whereby headwater areas are local drainages (of a particular reach) with tributaries consisting of first order streams discharging to second order streams.

Although the headwater areas may not contain riparian vegetation (e.g., ephemeral drainages), headwater streams contribute many important functions, related to biogeochemical processes, including the maintenance of sediment transport and water quality. Protection of the particular tributaries flowing into a riparian reach would allow for the maintenance and/or restoration of riparian ecosystem integrity at the reach, sub-basin, and watershed scales. If left unprotected, impacts to headwater areas that flow into a particular reach of high integrity may lead to the eventual degradation of that reach. In addition, conserving and/or restoring undeveloped drainages that connect core areas of upland habitat would maintain important habitat linkages at the landscape scale.

(d) Maintain/Protect/Restore Diverse and Continuous Riparian Corridors

Riparian corridors have greater value if they are continuous with respect to having an unbroken, canopy-covered corridor of trees and associated understory species. Unlike other habitat communities whose

diversity is not compromised by natural gaps and patches of habitat, a riparian corridor's continuous nature enhances diversity and ecological functions related to movement corridors.

If established, the following measures would facilitate the protection and/or restoration of corridors:

- Permanent impacts (direct and indirect impacts) to corridors are avoided to the maximum extent feasible.
- Road crossings are sufficiently sized to allow native, riparian vegetation to establish and persist under the structure, and allow for faunal movement along the corridor.
- Biological buffers are established adjacent to all riparian corridors and unvegetated drainages.
- Upstream activities are completed in such a way as not to degrade downstream corridors by compromising habitat, water quality, and hydrologic integrity.
- Areas with corridor breaks are considered for restoration, except in some localized areas where such activities may limit the persistence, recovery, or dispersal of a listed or sensitive species.
- Maintaining continuous riparian corridors also allows for the hydrologic connectivity within a given network of conservation areas, which is important for aquatic organisms and for maintaining the hydrologic and water quality integrity of the Watershed.

(e) Maintain or Restore Floodplain Connection

High integrity riparian reaches have active floodplains that flood on a regular basis. This overbank flooding is vital for maintaining sediment regimes and allowing for native habitat, including the recruitment of riparian plant species. It also allows interchange of biotic materials and nutrients between the active floodplain and the active channel, allowing for transport of detritus and nutrients to downstream areas and maintaining ecosystem processes.

(f) Maintain and/or Restore Sediment and Transport Equilibrium

High integrity reaches have functioning sediment regimes that balance erosional and depositional processes appropriate for that particular landscape position. Riparian habitat quality is often proportional to the quality of the sediment regime. Appropriate depositional processes allow the recruitment of new riparian vegetation. Excessive erosional processes remove riparian vegetation and lead to channel instability. There are many places in the subwatersheds with degraded sediment regimes that have the potential to be restored, as identified through the Watershed Riparian Ecosystem Restoration Plan: Site Selection and General Design Criteria (restoration plan) (Smith and Klimas, 2004).

(g) Maintain Adequate Buffer for the Protected Riparian Corridors

Buffers are necessary to maintain various functions of riparian systems because "edge effects" from adjacent activities may lead to the degradation of a particular riparian area over time. Adequate buffers ensure that the riparian ecosystems would be sustainable over time. The type of adjacent land use is important, as buffer requirements may be different if the adjacent land use is residential versus open space, for example.

The scientific literature has shown the effects of various buffer widths on endpoints such as general water quality, specific water quality parameters such as temperature and sediment, effects to benthic macroinvertebrates, and effects to wildlife to name a few examples. Ensuring buffers are as follows may facilitate the protection and restoration of riparian areas:

- Kept free of activities and pollutants that reduce the buffer's ecological functions;
- Established to contain adequate width to reduce the negative interactions between adjacent land uses and ecological functions. Buffers may range from 15 meters – 100 meters, depending on site-specific situations and function; buffers are typically measured from the top of the bank landward, unless otherwise stated;
- Included as mitigation, in addition to the area of wetland and/or riparian habitat; and
- Considered on a case-by-case basis, focusing on the connections between riparian communities and adjacent upland core resources, in order to maintain the interactions between communities, and to assure long-term conservation of riparian and upland species dependent on riparian areas for foraging or breeding, and/or for riparian species that utilize the transitional and adjacent uplands during their life cycles.

For the SAMP, consideration was given to site constraints and intended function of the buffers. Generally, based on a review of the scientific literature, as described in the Corps SAMP document (Corps, 2008) the following three different buffer widths will serve as a guide:

- For general water quality concerns pertaining to nonpoint source runoff, a 15-meter vegetated buffer should minimize effects from overland flow of sediment and other pollutants.
- For effects to sensitive aquatic species such as benthic macroinvertebrates, a 30-meter vegetated buffer should protect aquatic ecosystem processes A 30-meter vegetated buffer would be unnecessary in areas expected to be without sensitive benthic macroinvertebrates, such as ephemeral streams.
- For effects to wildlife, a 100-meter buffer should protect a large number of species from the indirect effects of noise, sound, and pollution. Although less sensitive species may be better adapted to areas without such extensive buffers, certain sensitive and/or larger wildlife species that use riparian corridors may need wider buffers. The wildlife management literature typically uses a 100-meter buffer to protect general wildlife concerns.

(h) Protect Riparian Areas and Associated Habitats Supporting Federally and State-Listed, Sensitive Species and their Habitat

Impacts to riparian reaches known to support wildlife with special status as federally and state-listed species and species of special concern should be avoided. For example, if a particular sensitive species uses upland habitats for foraging, dispersal, over-wintering, etc., adequate connectivity for the utilization of the upland habitat should be maintained. Occupied and potential occupied habitats of listed and

sensitive species should be provided buffers from adjacent land-uses and activities. Upstream and tributary areas should be modified only to avoid adverse effects to the abiotic and biotic factors supporting the species habitat, as well as temporal and stochastic events (e.g., seasonal flooding).

Several species, including the state and federally endangered least Bell's vireo and southwestern willow flycatcher, and the State species of special concern, the southwestern pond turtle, are dependent on riparian ecosystems for their survival. Buffer widths may vary according to specific species, activities, and on-site minimization measures. For example, buffers were considered as follows for the following species:

- Least Bell's vireo – maintain a buffer around the riparian vegetation polygons within which point data exist for this species.
- Southwestern willow flycatcher – maintain a buffer around the riparian vegetation polygons for which sufficient point data exist for this species, as well as around areas (polygons) of mature riparian vegetation suitable for this species (e.g., mature riparian woodland) whether sufficient occurrence data exist.
- Southwestern pond turtle – limit the activities to occur in a drainage basin of a reach within which there are occurrence data for this species.

2.1.1.4 Identification of Aquatic Resource Integrity Areas

This section explains the process by which the Corps and the Department identified aquatic resource integrity areas, which are the focus of the SAMP Analytical Framework that informs the Corps and the Department's management of aquatic resources in the Watershed. Aquatic resources with moderate to high integrity (water quality, hydrologic, or habitat), and/or those that provide functions important for the sustainability of the Watershed's riparian ecosystem, and their upland areas of influence (or local drainage basins) are referred to herein as aquatic resource integrity areas[3]. The term "Upland Areas of Influence" in this context is defined in Section 13, Acronyms, Abbreviations and Glossary.

Identification Criteria

The Corps and the Department developed a set of watershed-specific criteria to help identify the aquatic resource integrity areas. These criteria were based on the goals and objectives of the SAMP for aquatic resource protection identified in the SAMP Tenets. Aquatic resource integrity areas were identified by applying the criteria to different themes in a GIS program. Integrity-based criteria refer to scores given aquatic resources characterized in the LLFA (Smith, 2000). Selected criteria (1, 2, 4, 5, and 6) were used to identify areas as having greater conservation value when considered in the watershed context. Other criteria (3, 7, and 8) were used to identify areas where their protection was not expected to improve the overall integrity of aquatic resources, as evaluated in a watershed context. The criteria used are listed

[3] For purposes of understanding and evaluating the existing and potential stressors upon aquatic resources, the watershed-based methodologies used for the SAMP acknowledged the relationship between the aquatic resources and their upland areas of influence; as such, the Corps assessment methodologies incorporated certain indicators of integrity at the local drainage and drainage basin scales. Due to their indirect contribution to the integrity of the receiving aquatic resources, associated terrestrial habitats within these local drainages and drainage basins were considered an integral part of a whole system. Therefore, aquatic resources and their respective upland areas of influence constitute the aquatic resource integrity areas.

below. Detailed discussions of the criteria are provided in the Corps SAMP document (Corps, 2008) and the Corps LLFA (Smith, 2000) (Appendix B-2).

- Criterion 1 – Protect Local Drainages of Riparian Reaches with a Medium to High Level of Hydrologic, Water Quality, and Habitat Integrity
- Criterion 2 – Protect Headwater Local Drainage Basins
- Criterion 3 – Remove Areas with a Land Use/Land Cover Designation of "Developed with 15% Impervious Surfaces"
- Criterion 4 – Protect Aquatic Resources and Associated Upland Habitat Currently
- Criterion 5 – Protect Aquatic Resources Designated As Critical Habitat
- Criterion 6 – Enhance Ecosystem Functions of Currently Protected NCCP Reserve System and other Public Open Spaces
- Criterion 7 – Designated Buffer in Agricultural Land Use Areas
- Criterion 8 – Exclusion of Disconnected Reaches in Agricultural Areas

2.1.1.5 Formulation of a SAMP Impact Avoidance and Minimization Plan

By applying the resource identification and assessment methods (PLD and LLFA) described in Sections 2.1.1.1 and 2.1.1.2, respectively, and by considering the anticipated needs of the regulated community, the Corps and the Department were able to formulate an impact avoidance and minimization plan. The plan, which is an element of the SAMP Analytical Framework, endeavors to maximize the avoidance and minimization of impacts to sensitive aquatic resources as required by the 404(b)(1) Guidelines, at the watershed scale. The Corps and the Department targeted the aquatic resource integrity areas as the foundation of the impact avoidance and minimization plan. These aquatic resource integrity areas for the Watershed are shown in Figure 2-2 (northern portion of the Watershed) and Figure 2-3 (southern portion of the Watershed). Important aspects of formulating the impact avoidance and minimization plan were the coordinated (Pre-Application) planning process with the SAMP Participating Applicants and the public participation component as discussed in the following subsections.

Coordinated SAMP (Pre-Application) Planning Process

In formulating the SAMP impact avoidance and minimization plan, the Corps and the Department convened a series of pre-application meetings, beginning in 2001 (after the EIS/EIR scoping period). Those attending the pre-application meetings included coordinating resource agencies and the Participating Applicants who wanted specific projects or activities intensively evaluated in the context of the SAMP. The Corps and the Department evaluated a suite of reasonably foreseeable activities that would be regulated under CWA Section 404 and FGC Section 1600 *et seq*., including known projects and activities brought forward by the Participating Applicants.

This multi-year coordinated planning effort between the lead and cooperating resource agencies and the Participating Applicants involved extensive review of proposed projects. This resulted in subsequent project modification by the Participating Applicants to demonstrate adherence to the 404(b)(1) Guidelines by incorporating avoidance and minimization measures during the pre-application stage. This coordinated planning process resulted in the impact avoidance and minimization plan for development, whereby aquatic resource integrity areas were identified for potential areas for conservation management, and development footprints were redrawn to avoid impacting them. Other areas were identified for

restoration opportunities to increase the functional integrity of a particular riparian reach, which upon restoration and management would be considered aquatic resource integrity areas.

In addition to the specific criteria for identifying aquatic resource integrity areas, other issues were given consideration in the coordinated planning process for identifying an impact avoidance and minimization plan. Selected portions of local drainage basins associated with previously permitted, but unbuilt development projects were eliminated as aquatic resource integrity areas. Furthermore, based on the iterative pre-application review process, in the cases where medium to higher value aquatic resources and associated local drainage basins were located within areas planned for development projects, the resource agencies requested project modifications from the project proponent to avoid impacts in specific areas. These project modifications included decreasing the footprint of planned development and reducing post-development surface runoff into aquatic resources.

Public Participation

The public has had an important role in providing input to the SAMP formulation process. In addition to the public scoping meeting (August, 2001), the Corps and Department held a public workshop (July, 2002) and a public informational meeting (January, 2005) to continue to engage the public in the process. Corps and Department representatives attended the Newport Bay Watershed Management Committee intermittently to keep the known stakeholders apprised of the SAMP progress. The public comments received to date were considered during the SAMP formulation process and such ongoing feedback is reflected in the proposed SAMP.

A formal public review and comment period, including a public hearing on this Draft EIS/EIR will afford the public another opportunity to provide substantive comments on the SAMP. The Corps will use comments received in its decision-making process, in accordance with NEPA (40 CFR § 1506.6) and CWA regulations. The Department will evaluate comments in accordance with the CEQA requirements and the FGC.

Results of the SAMP Formulation Process

The SAMP impact avoidance and minimization plan depicts at a landscape level the aquatic resource integrity areas identified by the Corps and Department, and through application of the criteria (Section 2.1.1.4), the LLFA evaluation process, coordinated planning with the Participating Applicants and public participation described previously. The aquatic resource integrity areas are shown in Figures 2-2 and 2-3. The Corps and the Department caution that the configuration of the aquatic resource integrity areas could change as a result of further public review and the EIS/EIR process[4].

[4] The data used to develop these figures, represent the results of a landscape-level and reach-level characterizations of aquatic resources prepared in 2000 and were subsequently verified. However, the Corps and the Department caution that the Watershed is dynamic, not static. These data are for SAMP planning and evaluations purposes, and as such are not intended to replace site-level biological and physical assessments and jurisdictional delineations.

Figure 2-2. Aquatic Resource Integrity Areas (Northern Area)

Figure 2-3. Aquatic Resource Integrity Areas (Southern Area)

The aquatic resource integrity areas encompass the vast majority of aquatic resources within the Watershed. Of the 2,552 acres of aquatic resources, about 1,644 acres (64%), were identified as aquatic resource integrity areas. In considering riparian habitat only, 1,076 acres (65%) of the total 1,666 acres of riparian habitat delineated in the Watershed are identified within aquatic resource integrity areas. Of the 570 acres of high quality riparian habitat, about 511 acres (89%) are within identified aquatic resource integrity areas. Of the 959 acres of high and medium quality riparian habitat, about 780 acres (81%) are within aquatic resource integrity areas. Section 3.1 of this document includes detailed breakdowns of the various aquatic resource types of high and medium integrity within each subwatershed.

The Orange County Central-Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) Reserve System currently provides protection to 639 acres of aquatic resources, including 613 acres of riparian habitat. Using the SAMP Analytical Framework, the Corps and the Department identified an additional 1,025 acres of aquatic resources, including 480 acres of riparian habitat, as aquatic resource integrity areas.

In addition to the identification of aquatic resource integrity areas, the Corps and the Department consider the major stream systems, including Serrano Creek, Borrego Canyon Wash, San Diego Creek, Peters Canyon Wash, and Hicks Canyon Wash, important aquatic resources in the network of aquatic resources within the Watershed. In light of the types and extent to which these major stream systems provide water quality, hydrologic, and potential habitat and connectivity functions and values within the Watershed, the Corps and the Department believe these major stream systems merit special consideration in the management of the Watershed's aquatic resources. Consequently, the Corps and the Department have incorporated these considerations into the SAMP Analytical Framework, and in the proposed modifications to implement the respective regulatory programs.

Beyond the subwatershed unit, it is helpful to look at the SAMP aquatic resource integrity areas in terms the NCCP/HCP Reserve, the former Marine Corps Air Station (MCAS) El Toro, and the City of Irvine. Of the 17,133 acres of aquatic resources and their contributing upland areas of influence identified as aquatic resource integrity areas, 12,408 acres (72%) fall within the boundaries of the NCCP Reserve System (See Figure 2-4). Most of the aquatic resources, including ephemeral streams and riparian habitat found within the NCCP/HCP Reserve System, are captured as high quality resources within the aquatic resource integrity areas. For instance, 521 acres (67%) of the high and medium integrity riparian habitat identified as part of the aquatic resource integrity areas are located within the NCCP/HCP Reserve System. Table 2-1 in Section 2.3.2 of the Corps SAMP document (2008) contains a detailed breakdown of aquatic resource integrity areas in comparison to NCCP/HCP Reserve areas.

Yet, high and medium quality aquatic resources, including riparian habitat, identified as aquatic resource integrity areas extend beyond the boundaries of the NCCP Reserve System. [Note: The NCCP/HCP Planning Area extends beyond the boundaries of the aquatic resource integrity areas and the Watershed]. Overall, the aquatic resource integrity areas encompass 1,025 acres of aquatic resources that are located outside the NCCP/HCP Reserve System boundaries; as such, these resources are under various management authorities with variable conservation priorities.

Figure 2-4. Relationship between the SAMP Aquatic Resource Integrity Areas and the Central-Costal NCCP Subregional Reserve System Planning Areas

The identification of aquatic resource integrity areas target an additional 259 acres of high and medium integrity riparian habitat for improved resource management. Other aquatic resources are located in non-NCCP designated open space areas, including the City of Irvine's Open Space Preserve, and UCI's San Joaquin Freshwater Marsh Preserve. Of the Watershed's aquatic resources that failed to satisfy the criteria for identification as aquatic resource integrity areas, some are within the NCCP/HCP Reserve System and other open space areas, and thus, are afforded some level of management already.

The former Marine Corps Air Station El Toro (MCAS El Toro) also falls within the Watershed and provides important connectivity opportunities within the Watershed. Because of its location at the base of the Loma de Santiago foothills, the development of MCAS El Toro could impede the connection of resources identified in the upstream reaches of the Watershed from those downstream. The SAMP analysis identified 6,820 acres of aquatic resources and their contributing upland areas as aquatic resource integrity areas in the portions of the Watershed north of the MCAS El Toro, including 561 acres of aquatic resources. South of MCAS El Toro, there are 10,313 acres identified as aquatic resource integrity areas, including 1,084 acres of aquatic resource habitats. Of the 561 acres of aquatic resources in the north and 1,084 acres in the south, 30 and 16 acres, respectively, are ephemeral streams.

North of MCAS El Toro, considerable overlap exists between the aquatic resource integrity areas and the NCCP Reserve, with 467 acres, or 83% of this subset located within the NCCP Reserve System. In contrast, south of MCAS El Toro, less protection by the NCCP Reserve is afforded aquatic resources, whereby 152 acres or 14% of the aquatic resources overlap with the NCCP Reserve.

2.1.1.6 The Corps and the Department's Authorities and SAMP Aquatic Resource Integrity Areas

The identification of selected aquatic resources and their contributing uplands as aquatic resource integrity areas has no independent legal effect. It does not confer upon the Corps or the Department any additional regulatory authority beyond that which the agencies exercise under their respective enabling statutes. The identification of aquatic resource integrity areas provides a foundation for the permitting framework as well as the mitigation framework, which are both within the agencies' purviews. Management of aquatic resources within the integrity areas through the regulatory process is one of the principal benefits of the proposed SAMP and WSAA Process. The SAMP allows the agencies to make decisions about aquatic resources within the Watershed in a strategic, holistic way, rather than on a project-by-project basis. Apart from the Corps and the Department regulatory authorities over jurisdictional areas and activities and requirements for compensatory mitigation projects, the management of aquatic resources integrity areas will rely on voluntary efforts.

As previously described, the proposed SAMP represents a comprehensive approach to aquatic resource conservation that integrates both the regulatory and land use planning processes so that they can become mutually beneficial. The SAMP does this by enabling the regulatory process to integrate more broadly with and support preservation, restoration, enhancement, and management of aquatic resources in the Watershed, and vice versa.

2.1.2 Permitting Processes, including Mitigation Framework

The second major component of the SAMP is the watershed-specific permitting process. The Corps and Department propose to change the way in which their existing, conventional permitting procedures under

CWA Section 404 and FGC Section 1600 *et seq.* respectively, are applied in the Watershed. These changes originated from the SAMP Analytical Framework described in Section 2.1.1. Thus, the Corps and the Department's watershed-specific permitting procedures and mitigation policies will now differentiate among aquatic resources based on their water quality, habitat, and hydrologic integrity and functional role in the Watershed. The focus of both the Corps and the Department's new watershed-specific permitting process is to provide the appropriate level of review of regulated activities affecting aquatic resources within the Watershed. The SAMP Analytical Framework, which has allowed the Corps and Department to identify aquatic resources integrity areas and major stream systems that merit closer consideration, will improve the agencies' capacity to make informed management decisions within the agencies' authorities (i.e., permitting decisions, including mitigation). This approach has been translated to the proposed changes to the regulatory permitting procedures described herein.

The proposed modifications to the Corps permitting process for the Watershed are summarized as follows and described in greater detail in subsection 2.1.2.3:

- Change the availability of selected Nationwide Permits (NWPs) for use in the Watershed;
- Establish new Letter of Permission (LOP) procedures for the Watershed; and
- Establish a new Regional General Permit (RGP) for the Watershed.

The Department proposes to augment the existing SAA process with a proposed WSAA Process for use in the Watershed for qualifying activities.

The proposed permitting procedural changes reflect extensive front-end analysis of the Watershed's aquatic resources and consideration of how regulated activities may affect those resources. As a result, the proposed changes to the regulatory program procedures will allow the Corps and the Department to target staff review and evaluation time towards regulated activities and projects with greater potential to result in adverse impacts to the overall integrity of aquatic resources in the Watershed. Conversely, projects and regulated activities with minor impacts that affect low integrity aquatic resources would undergo modified permitting procedures to improve efficiency. Areas that failed to meet the criteria of aquatic resource integrity areas represent aquatic resources with low hydrologic, water quality, and habitat integrity; little habitat value for threatened and/or endangered species; and or wildlife connectivity value. Regardless of their decreased value, under the SAMP mitigation framework even the permanent loss of lower value resources would require compensatory mitigation for unavoidable impacts.

An additional outcome of the SAMP formulation process is agreement between the Corps and the Department to increase coordination with the other resource agencies over their corresponding related regulatory programs when reviewing future permit applications. Mechanisms for increased interagency coordination are included in the proposed permitting procedures.

In issuing any future permits, agreements, or other regulatory approvals to applicants, the Corps shall, to the extent permissible, rely on and shall utilize this EIS/EIR prepared in conjunction with the SAMP as the NEPA program environmental document for such permits and approvals. Likewise, the Department shall, to the extent permissible, rely on the EIS/EIR prepared in conjunction with the SAMP as appropriate CEQA program documentation for any approvals regarding potential impacts to Department jurisdiction along with any project specific CEQA documentation.

2.1.2.1 Anticipated Regulated Activities

Future actions in the Watershed that are activities regulated by the Corps and the Department under CWA Section 404 and FGC Section 1600 *et seq.* (i.e., require the discharge of dredged or fill material into waters of the U.S., or activities that obstruct or divert the flow, or change the bed, channel, or bank of any river, stream or lake in the state, respectively) would be subject to the SAMP/WSAA Process. Based on the types of regulated activities previously authorized and the SAMP scoping process, the following categories of activities are addressed in the proposed modifications to the Corps and Department's permitting processes and evaluated at a program level in this EIS/EIR.

Utility Lines

Utility lines such as for water, electricity and natural gas must often cross one or more jurisdictional waters as part of the utility distribution system. Utility lines are sometimes attached to bridges, if available and feasible, but often, the lines are trenched and placed underground. Periodic maintenance is required for repair and/or replacement of damaged lines. Activities required for the construction and maintenance of utility lines in watercourses may include excavation for outfall and intake structures, boring, trenching, backfill, and/or bedding. One less intrusive alternative to trenching or excavating for underground utility installation is directional boring. Directional boring is the process of precision drilling beneath existing obstructions such as roads, landscaping, rivers, buildings, etc. The greatest advantage of directional boring is the benefit of installing underground utilities without disturbing the surface landscape, thereby reducing disturbance to the natural environment.

Flood Control Facilities

Drainage and flood control facilities including flood control channels, outfalls, culverts, retention/detention basins and sediment basins are located within or near jurisdictional waters. As the infrastructure component of a broader flood management[5] program, flood control facilities are designed and constructed in accordance with applicable hydrologic design standards to prevent loss of life and reduce property damage caused by floods. Construction of permanent flood control structures generally requires soil excavation, removal, compaction, and sometimes concrete-lining and or placement of bank stabilization measures in channels. Maintenance typically involves periodic dredging of accumulated sediments in channels and basins as well as periodic removal of vegetation to restore the original basin and channel design capacity and configuration. Dredged material is typically placed in upland areas and proper sedimentation controls are used. Maintenance activities may also involve excavation of accumulated sediments in outfall and intake structures, culverts and other structural features of the conveyance system to maintain design capacity.

Road Crossings including Bridges and Culverts

Construction of bridges and culverts across jurisdictional waters can be necessary to meet local and regional circulation needs associated with continual development of the Watershed and to address deficiencies in the existing circulation system. Bridges may span the watercourse or be constructed with one or more piers depending on bridge length. Construction activities would include placement of temporary cofferdams boring, dredging, and fills for construction and access. Permanent features within

[5] The term "flood management" refers to an integrated approach undertaken to reduce flood risks and may include floodplain management, planning and investments in flood projects, and improved management of infrastructure that balances public safety and environmental protection. Related are stormwater quality and drainage management efforts. Some flood management activities are regulated by the Corps and/or the Department, while others (in non-jurisdictional areas) are not.

or adjacent to the channel would include abutments, foundation seals, and piers. Impacts would be both temporary and permanent.

Land Development for Residential, Commercial, Industrial, Institutional and Recreational Facilities

Future activities in the Watershed will include land development for residential, commercial, industrial, institutional, and recreational uses. Construction may include building foundations, building pads and attendant features that are necessary for the use and maintenance of structures such as local roads, parking lots, driveways, garages, yards, playgrounds, playing fields, and golf courses, utilities and storm water management systems. Residential developments include multiple and single unit developments. Commercial developments include retail stores, industrial facilities, restaurants, business parks, and shopping centers. Institutional developments include schools, fire stations, government office buildings, judicial buildings, public works buildings, libraries, hospitals, places of worship, and sanitary landfill facilities.

Storm Water Treatment and Management Facilities

Stormwater treatment and management facilities that would be regulated under a Corps or Department permit would include features that could occur in jurisdictional areas such as constructed treatment wetlands, water quality treatment basins and infiltration trenches. These facilities are designed to capture degraded runoff in natural or improved drainage courses for treatment and subsequent return to surface water or infiltration to groundwater. These facilities are expected to have beneficial effects on downstream water quality.

Habitat Restoration and Enhancement Projects

Habitat restoration and enhancement projects are typically located in jurisdictional areas to fulfill their functions in restoring and/or improving wetland/riparian habitat to increase wildlife habitat and hydrologic functions and values.

Fire Abatement and Vegetation Fuel Management Activities in Jurisdictional Areas

Management of vegetation for the purposes of fire abatement usually involves upland plant communities composed of coastal sage scrub or chaparral. Where ephemeral drainages are interspersed within such communities, or where a riparian zone is adjacent to such habitat, vegetation management activities may temporarily impact wetland and riparian habitat. This activity may include vegetation removal, thinning of vegetation, as well as temporary access roads and staging areas. In many cases, as the Corps does not regulate removal of vegetation with hand tools, this activity may not be a Corps-jurisdictional activity; the activity would then be solely under the jurisdiction of the Department.

A summary of the seven regulated activities is provided in Table 2-1.

Table 2-1. Regulated Activities* Anticipated during the SAMP Formulation Process

No.	Title of Category	Specific Projects or Activities Anticipated in the Watershed [Regulated when such activities occur in jurisdictional areas]
1	**Utility Lines** Construction and/or maintenance of new and existing facilities	Pipelines, conduits, cables, siphons, utility poles, and towers associated with conveyance of water, gas, wastewater, sewage, electricity, and electronic data. Includes pump stations, and lift stations. Includes temporary stream diversion and dewatering operations for construction and maintenance purposes; and temporary construction access roads and work areas.
2	**Flood Control Facilities** Construction and/or maintenance of new and existing facilities	Engineered channels (earthen, partially lined, or fully lined), bank protection, storm drain outlets, grade stabilizers, trash racks, pump stations, and basins (detention, retention, or debris). Includes construction and/or maintenance of associated access roads, fences, and right of way; vegetation management and removal; channel and basin desilting; maintenance of ramps, intakes and outlets, and embankments at basins; and temporary stream diversion and dewatering operations for construction and maintenance purposes.
3	**Road Crossings including Bridges and Culverts** Construction and/or maintenance of new and existing road crossings	At-grade splash crossings, box culverts, pipe culverts, and bridges. Maintenance includes inspection, vegetation management, channel desilting, structural repair, and replacement. Includes temporary stream diversion and dewatering operations for construction and maintenance purposes; and temporary construction access roads and work areas. Also includes vegetation clearing, grading, excavation, compacting, and/or filling for the purposes constructing and maintaining an engineered road across a jurisdictional wetland or riparian area outside of drainages under either the Department or Corps jurisdiction.
4	**Land Development for Residential Commercial, Industrial, Institutional and Recreational Facilities** Construction and/or maintenance of new and existing land development and recreational facilities	Vegetation clearing, grading, excavation, compacting, and/or filling for the purposes developing land for commercial, industrial, institutional land uses and for the purposes of constructing and maintaining a park, golf course, trail, pathway, pedestrian/equestrian bridge or boardwalk, or other recreational facility. Includes temporary stream diversion and dewatering operations for construction and maintenance purposes; and temporary construction access roads and work areas.
5	**Stormwater Treatment and Management Facilities** Construction and/or maintenance of existing and new facilities	Drain outlets and inlets, in-stream water quality wetlands or basins, and infiltration beds. Maintenance includes vegetation management, inspection, sediment removal, structural repair, and replacement. Includes temporary stream diversion and dewatering operations for construction and maintenance purposes; and temporary construction access roads and work areas. Does not include off-stream engineered water quality wetlands and detention basins**.
6	**Habitat Restoration and Enhancement Projects** Construction and/or maintenance of new and existing projects	Site preparation (clearing, grading, filling, excavation, compacting), vegetation removal, planting, seeding, and construction of drainage features and facilities associated with habitat restoration and enhancement. Maintenance of restored or enhanced sites by vegetation management, sediment removal, and drainage maintenance. Includes temporary stream diversion and dewatering operations for construction and maintenance purposes, and temporary construction access roads and work areas.
7	**Fire Abatement and Vegetative Fuel Management Activities**	Vegetation management required to meet local fire abatement codes. Includes temporary construction access roads and work areas.

* Regulated activities needing regulatory permits from the Corps and/or the Department are those activities and projects that occur within drainages, wetlands, riparian corridors, and other aquatic resources under the jurisdiction of the Corps and/or the Department. In some cases, jurisdiction may only be present for one of these agencies. Activities that do not involve the discharge of fill or dredged material to "waters of the U.S." are not regulated by the Corps. The most common Corps non-regulated activity is vegetation management by herbicide treatment and/or mowing or hand clearing that does not disturb soil, sediment, or plant roots.

** Waste treatment systems designed to meet the requirements of the CWA are not waters of the U.S. (33 CFR 328.3).

This EIS/EIR programmatically evaluates impacts associated with these seven activity types under the proposed SAMP Permitting Program/WSAA Process described herein. The Corps SAMP permit program (RGP and LOP procedures) and the Department's WSAA Process provide specific conditions

that an applicant must meet to ensure the regulated activity produces minimal impacts to aquatic resources of the Watershed.

2.1.2.2 Participating Applicants' Projected Activities

A subset of anticipated activities was brought forward by the Participating Applicants as planned projects and routine activities that would require future permitting from the Corps and the Department. Since the Participating Applicants were able to provide information at a sufficiently detailed level to bring forward for pre-application planning purposes, the Corps and the Department were able to work with the Participating Applicants to examine projects and activities and help identify ways to achieve conformance with the SAMP Analytical Framework and the Watershed-wide avoidance and minimization plan.

The following planned activities and projects[6] were brought forward by the Participating Applicants for pre-application consideration during the SAMP formulation process:

- Development of City of Irvine Planning Areas (PAs) 1, 6, 18, and 39 (The Irvine Company)[7].
  - Development for PA 1 is evaluated in the *Draft EIR for General Plan Amendment and Zone Change for PA1/PA2/PA9* (SCH #2004041080) prepared for the City of Irvine by Cotton/Bridges/Associates (March 2005);
  - Development for PA 6 is evaluated in the *Draft EIR for the Northern Sphere Annexation General Plan Amendment and Zone Change* (SCH #2001051010) prepared for the City of Irvine by the Templeton Planning Group (December 2001); and
  - Development for PAs 18 and 39 is evaluated *in Draft EIR for General Plan Amendment and Zone Change for PA 18, 33 (Lot 39), 34 and 39* (SCH #20050811099) prepared for the City of Irvine by William Halligan, The Planning Center (June 2006).

[6] Other anticipated activities or planned projects were brought to the attention of the Corps and the Department during the SAMP formulation process. These included future County of Orange road, park and landfill capital improvement and maintenance projects, but either had insufficient level of detail to initiate the pre-application process, or else the pre-application process had not advanced to a stage for meaningful discussion when the impact avoidance and minimization plan was being developed.

[7] PAs 1, 6, and 18 received permit authorizations from the Corps and the Department for the proposed projects (or phases thereof) prior to the finalization of the SAMP and the SAMP permitting processes. PA 39 has an application pending review. The Irvine Company redesigned the three permitted projects to demonstrate conformance with the SAMP Analytical Framework, the SAMP impact avoidance and minimization plan, and in a manner such that the projects would likely have been eligible for permitting under the Corps LOP procedures and the Department's WSAA Process if such permitting processes had been in place.

- Development of the Orange County Great Park (City of Irvine)[8]. Detailed project description information and environmental evaluation of this project is contained in the *Draft EIR for the Orange County Great Park* (SCH #2002101020) prepared for the City of Irvine by Cotton/Bridges/Associates (February 2003);
- Construction and maintenance of the Natural Treatment System (NTS) (Irvine Ranch Water District). This project is evaluated in the *Revised Draft Environmental Impact Report for San Diego Creek Watershed Natural Treatment System* (SCH #2002021120) prepared for the Irvine Ranch Water District by BonTerra Consulting (January 2004);
- Maintenance of flood control facilities within the Watershed (Orange County Flood Control District);
- Water and sewer system construction and maintenance within the Watershed (Irvine Ranch Water District); and
- Extensions of Bake Parkway and Lake Forest Drive (The Irvine Company)[9]. These road extensions are described in Draft Environmental Impact Report for Village 34 General Plan Amendment and Zone Change (SCH # 85120404) prepared for the City of Irvine by The Planning Center (January 1987).

2.1.2.3 Corps Watershed-Specific Permitting Process

The proposed modifications to the Corps permitting process for the Watershed are summarized as follows and described in greater detail in the following subsections:

- Change the availability of selected NWPs for use in the Watershed;
- Establish new LOP procedures for the Watershed; and
- Establish a new maintenance RGP for the Watershed.

Effectively, the LOP procedures and RGP would replace some NWPs and provide a permitting mechanism with shortened permit processing times, as compared with a Standard Individual Permit (SIP), for eligible regulated activities that are consistent with the SAMP Analytical Framework. Authorizations under LOP procedures would be based on conformity with criteria outlined herein and in the forthcoming Special Public Notice published separately (Appendix C-1). Qualifying routine maintenance activities would be authorized under a new maintenance RGP as specified in the Corps forthcoming Special Public Notice (Appendix C-2). Alternatively, activities regulated by the Corps under Section 404 and ineligible for a NWP, an LOP, or RGP, would be required to undergo evaluation through a SIP process.

A summary of the differences between the Corps existing and proposed permitting processes for the San Diego Creek Watershed is provided in Table 2-2. Figure 2-5 is a flow diagram depicting the Corps proposed SAMP permitting procedures applicable to the San Diego Creek Watershed.

[8] In relation to the Great Park, the Heritage Fields Project was subsequently identified as a proposed project and the Corps and the Department participated in pre-application meetings with the proponents subsequent to the SAMP formulation stages. The Corps and Department conducted detailed evaluations of the proposed projects and alternatives under a SIP and SAA, respectively, and has subsequently granted the required permit/agreement.

[9] The Corps and the Department received applications for a SIP and SAA, respectively for the Lake Forest drive Extension Project and the Bake Parkway Extension. The Corps conducted a detailed evaluation of the proposed projects and alternatives under the context of the SAMP Analytical Framework and subsequently permitted the projects.

Table 2-2. Comparison between Corps current and proposed SAMP permitting processes within the San Diego Creek Watershed.

	CURRENT SYSTEM		**PROPOSED SYSTEM**					
Permit Program	NWPs	SIPs	NWPs	RGP	LOPs			SIPs
Applicable Use Areas	All areas	All areas	All areas	Outside aquatic resource integrity areas	Outside aquatic resource integrity areas	In major stream systems[1] outside aquatic resource integrity areas	Inside aquatic resource integrity areas	All areas
Eligible Regulated Activities	Specified for each NWP: NWP 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50	All regulated activities ineligible for NWPs	Specified for each retained NWP: NWP 1, 2, 4, 5, 6, 8, 9, 10, 11, 15, 20, 22, 23, 24, 28, 30, 32, 34, 35, 36, 37, 38, 45, 47, 48	Anticipated maintenance activities[2]	Anticipated activities[3]	Anticipated activities[3]; No stream channelization or stream replacement with pipes	Anticipated activities[3]; No stream channelization or stream replacement with pipes	All regulated activities ineligible for other permitting procedures
Permanent Impacts to Waters of the U.S. Authorized	Generally ≤ 0.5 acre	No limit[4]	Generally ≤ 0.5 acre	None	No limit[5]	No limit[5]	≤ 0.1 acre	No limit[4]
Temporary Impacts to Waters of the U.S. Authorized	No limit	No limit	No limit	≤ 0.5 acre	No limit[5]	No limit[5]	No limit[5]	No limit
Review Time	≤ 45 days	approx. 120 days	≤ 45 days	≤ 15 days	≤ 45 days	≤ 45 days	≤ 45 days	approx. 120 days
Pre-Application Coordination	Preferred	Preferred	Preferred	Preferred	Required[6]	Required[6]	Required[6]	Preferred

	CURRENT SYSTEM		**PROPOSED SYSTEM**					
Permit Program	NWPs	SIPs	NWPs	RGP	LOPs			SIPs
Inter-Agency Review	Generally >0.5 acre	None	None	None	All actions	All actions	All actions	All actions

1 Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek

2 Anticipated maintenance activities ineligible for NWP may be eligible for RGP: Utility Lines (maintenance of new and existing facilities); Flood Control Facilities (maintenance of new and existing facilities); Road Crossings including Bridges and Culverts (maintenance of new and existing crossings); Land Development for Residential, Commercial, Industrial, Institutional and Recreational Facilities (maintenance of new and existing land development and recreational facilities); Storm Water Treatment and Management Facilities (maintenance of new and existing facilities); Habitat Restoration and Enhancement Projects (maintenance of new and existing projects).

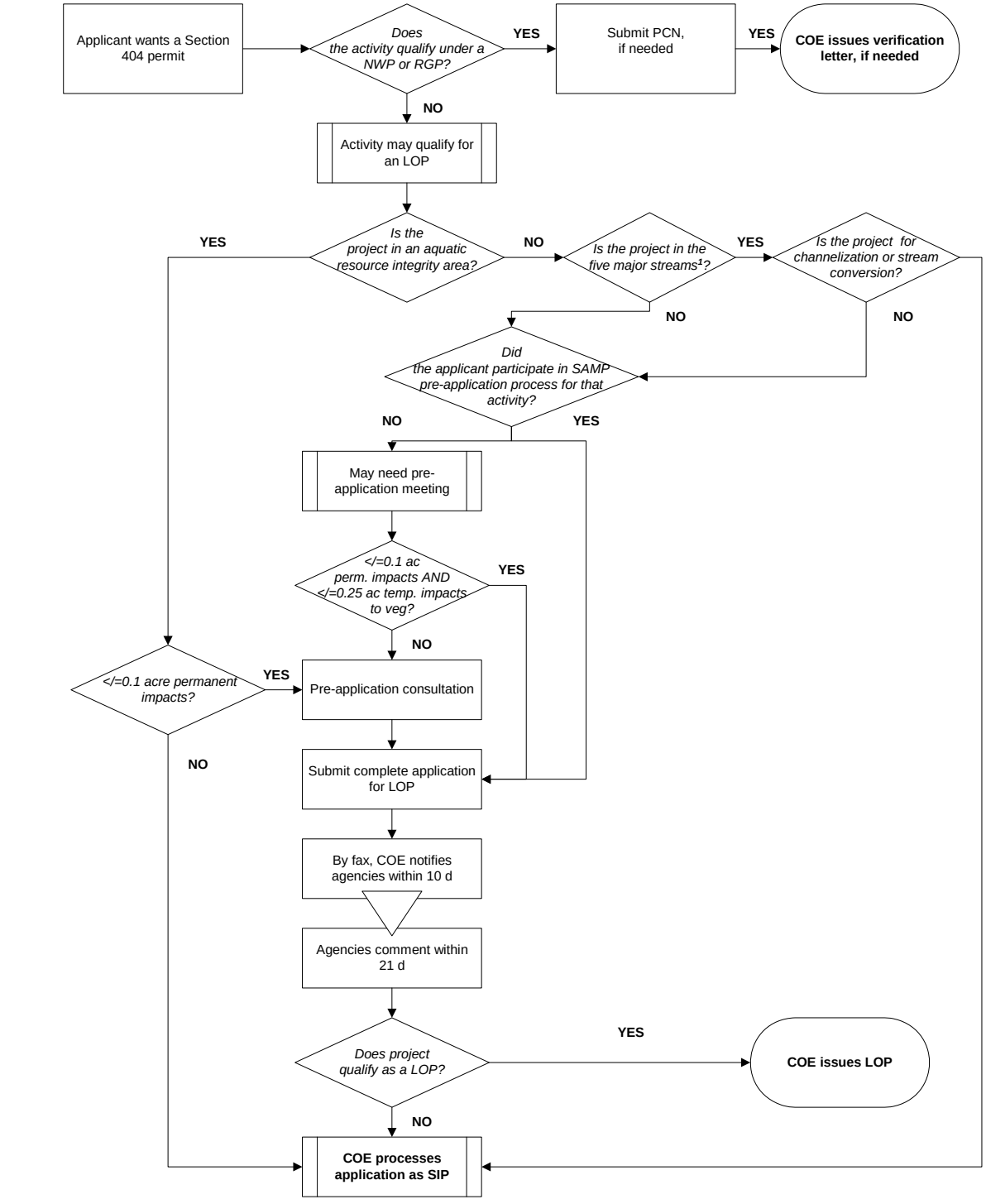
3 Anticipated activities ineligible for NWP or RGP may be eligible for LOP procedures: Utility Lines (construction and/or maintenance of new and existing facilities); Flood Control Facilities Maintenance (construction and/or maintenance of new and existing facilities); Road Crossings including Bridges and Culverts (construction and/or maintenance of new and existing crossings); Land Development for Residential, Commercial, Industrial, Institutional and Recreational Facilities (construction and/or maintenance of new and existing land development and recreational facilities); Storm Water Treatment and Management Facilities (construction and/or maintenance of new and existing facilities); Habitat Restoration and Enhancement Projects (construction and/or maintenance of new and existing projects); and Fire Abatement and Vegetative Fuel Management Activities

4 In evaluating projects under the SIP process, the Corps would need to assure project compliance with the 404(b)(1) Guidelines. Except as provided for by CWA Section 404(b)(2), no discharge of dredged or fill material would be permitted by the Corps if the effects of the discharge, considered either individually or cumulatively, would contribute to the substantial degradation or impairment of waters of the U.S. (40 CFR Part 230).

5 Provided the project is in full compliance with the LOP procedures.

6 For >0.1 acre of permanent impacts to waters of the U.S. or >0.25 acre of temporary impacts to waters of the U.S. with native riparian and/or wetland vegetation.

Figure 2-5. Flow diagram for Corps SAMP Permit Process for San Diego Creek Watershed



[1] Five streams: Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek

Revocation of Specific Nationwide General Permits

Many NWPs have a threshold of 0.5 acre of permanent impacts. Under the current permitting framework, projects with impacts to greater than 0.5 acre of waters of the U.S. must undergo processing as a SIP. Projects with impacts to 0.5 acre or less of waters of the U.S. would undergo processing as a NWP. The NWP threshold is applied regardless of the type or condition of aquatic resources involved.

In consideration of the SAMP Analytical Framework, the Corps has concluded that indiscriminate application of NWPs may provide an inappropriate level of protection to aquatic resources in the Watershed. For instance, in areas where riparian ecosystems have been identified as strategic for the overall condition of the Watershed (i.e. within aquatic resource integrity areas), the Corps believes the NWP procedures provide an insufficient level of review for those projects proposing to impact higher quality aquatic resources. Within the aquatic resource integrity areas, the aquatic resources possess a moderate to high level of hydrologic, water quality, and habitat integrity with important strategic value in a landscape context with respect to endangered aquatic species habitat and riparian movement corridors. The NWP thresholds do not provide the public the appropriate amount of permit review in light of the condition of the aquatic resources in question. The Corps contends that additional public or agency review and input are needed to ensure the higher quality aquatic resources receive the appropriate amount of review and regulatory attention.

In other areas, where riparian condition is poor, the thresholds required by the NWP program can result in delays and uncertainty for projects proposing impacts to greater than 0.5 acre of these lower quality aquatic resources. Specifically, the Corps believes that aquatic resources with a low level of hydrologic, water quality, and habitat integrity, and with little strategic value in the landscape context, do not warrant a full SIP review. For these types of proposed impacts, the required SIP procedures (i.e., a public notice and environmental assessment) tend to elicit little input from the public and other resource agencies, or provide minimal additional insight on aquatic resource conditions beyond what was obtained by the formal assessment methods used for the SAMP. In light of the degraded condition of the aquatic resources outside aquatic resource integrity areas, the Corps believes NWP thresholds are unnecessarily restrictive in these areas.

Therefore, the SAMP permitting process involves revocation of the use of certain NWPs within the Watershed followed by implementation of new permitting procedures for Section 404 LOPs. Additionally, an RGP would address the need for maintenance activities affecting aquatic resources outside aquatic resource integrity areas. The Corps believes these steps would strengthen aquatic resource protections in areas of the Watershed of greater integrity and functional value, as well as provide regulatory flexibility for activities affecting lower value resource areas in situations where the impacts are not substantial.

As proposed, the Corps would revoke the use of selected NWP[10] authorizations within the San Diego Creek Watershed, as consistent with the Corps authority and procedures outlined in 33 CFR 330.5(c) for issuing, modifying, suspending, or revoking nationwide permits and authorizations. Specifically, the Corps Division Engineer, through his discretionary authority proposes to revoke the use of the following

[10] NWPs authorized by the Corps on March 18, 2007 expire on March 18, 2012. The list of NWPs proposed for revocation in the San Diego Creek Watershed described herein reflects the 2007 NWPs.

24 NWPs: 03, 07, 12, 13, 14, 16, 17, 18, 19, 21, 25, 27, 29, 31, 33, 39, 40, 41, 42, 43, 44, 46, 49, and 50. The remaining 25 NWPs would be retained for use in the Watershed: 01, 02, 04, 05, 06, 08, 09, 10, 11, 15, 20, 22, 23, 24, 28, 30, 32, 34, 35, 36, 37, 38, 45, 47, and 48 (See Table 2-2).

Sections 2.1.6.1 and 8.7.1 of this document contain more detailed discussions and analyses of the revocation of selected NWPs for this Watershed.

LOP Procedures

Pursuant to its authority under 33 CFR § 325.2(e)(1)(ii) and in accordance with procedures outlined in 33 CFR Part 325, the Corps proposes to establish LOP procedures for regulated activities that are consistent with the purposes and goals of the SAMP. The LOP procedures would cover several categories of activities listed below. In developing the LOP procedures, the Corps evaluated several classes of activities for applicability inside and outside the aquatic resource integrity areas and in a manner to comply with the avoidance and minimization requirements of the Section 404(b)(1) Guidelines.

The LOP procedures outline a process where a decision to issue any particular permit authorization is made after coordination with federal and state fish and wildlife agencies, a public interest evaluation, and a concise environmental review that tiers from this Program EIS/EIR. A review process involving other resource agencies would insure adverse impacts are minimized to the maximum extent practicable. An integrated mitigation framework, supported by the Strategic Mitigation Plan and Mitigation Coordination Program discussed later in Sections 2.1.3 and 2.1.4 outlines appropriate compensatory mitigation for regulated activities resulting in unavoidable impacts to jurisdictional areas within the Watershed. The use of LOP procedures for the permanent discharge of dredged and/or fill materials would be based upon the integrity of the aquatic resource proposed for impact, the activity type, and the acreage of impact. Generally, LOP procedures would be restricted for use in authorizing regulated activities affecting the lower value aquatic resource areas (i.e., areas that failed to meet the criteria for identifying aquatic resource integrity areas). In such low integrity areas, no acreage thresholds would apply for LOP usage, because the baseline conditions of these aquatic resources are such that further changes in integrity would have a minor effect on the Watershed and would be controlled under a detailed evaluation by the resource agencies. The applicant would have to demonstrate impact avoidance and minimization were achieved to the extent practicable. Through the pre-application coordination process, the agencies would assist the applicant with fulfilling these conditions.

Regulated activities affecting the aquatic resource integrity areas may also be eligible for LOP procedures on a conditional basis. In these sensitive areas, LOPs would authorize temporary impacts for the purpose of maintaining established structures and permanent impacts up to 0.1 acre of waters of the U.S. Essentially, LOP procedures in aquatic resource integrity areas would apply only to projects with a small overall footprint, such as utility stations, small bank protection structures, a single family home and recreational trails. Additionally, in the five major stream systems (i.e., Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek), the LOP procedures would only be available for regulated activities that would not result in stream channelization or conversion of a stream to storm drain system.

Generally, the Corps would issue an LOP within 45 days of receipt of a complete application for projects that demonstrate conformance with the LOP conditions. LOP procedures would minimize delays for

projects with minor impacts to the aquatic environment, while strengthening the review process by providing a framework for increased agency coordination and review than often afforded by the existing permitting programs. The LOP procedures may apply to eligible projects that otherwise do not qualify for a NWP or RGP.

(a) Eligible Activities

Outside Aquatic Resource Integrity Areas

Outside the aquatic resource integrity areas, as shown in Figures 2-2 and 2-3, numerous activities would be eligible for the LOP procedures[11]. The discharge of dredged or fill material into waters of the U.S. associated with the following activities would be covered by the LOP procedures:

- Public and private utilities, including construction and maintenance of utility lines;
- Public and private drainage and flood control facilities, including construction of outfall and intake structures, construction of bank stabilization structures, and maintenance of all flood control facilities;
- Public and private road crossings including bridges and culverts that may involve lengthening, widening, and maintenance;
- Public and private land development, including residential, commercial, industrial, institutional, and recreational uses;
- Storm water treatment and management facilities including construction and/or maintenance of new and existing facilities;
- Habitat restoration and enhancement projects, including wetland restoration and creation; and
- Fire abatement and vegetative fuel management[12].

However, otherwise permissible activities could not be permitted under an LOP if they would substantially alter a compensatory mitigation site or involve flood-control related conversions of soft-bottom channels to concrete-lined channels or channelization of the major stream systems such as Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek. Such activities would require a Corps SIP.

Inside Aquatic Resource Integrity Areas

Some activities affecting jurisdictional resources within aquatic resource integrity areas would still be eligible for LOPs. Regulated activities with minor, permanent impacts up to 0.1 acre of waters of the U.S., except capital improvement flood control projects excluded above, would be eligible for LOP procedures. In addition, covered under the LOP procedures, is the discharge of dredged or fill material into waters of the U.S. associated with the following activities:

- Maintenance and repair of public and private utilities, including utility lines;

[11] Many of the activities otherwise eligible under the suspended NWPs would also be eligible for LOPs if they are consistent with the SAMP; this determination would be made by the Corps during the pre-application consultation.

[12] This activity may include vegetation removal, thinning of vegetation, as well as temporary access roads and staging areas. In many cases, as the Corps does not regulate removal of vegetation with hand tools, this activity may not be a Corps-jurisdictional activity; the activity would then be solely under the jurisdiction of the Department.

- Maintenance and repair of public and private drainage and flood control facilities, including outfall and intake structures, bank stabilization structures, flood control channels (consistent with an established Corps-approved maintenance baseline), and flood control basins (consistent with an established Corps-approved maintenance baseline), and landfill concrete channels and sedimentation basins (consistent with an established maintenance baseline);
- Maintenance and repair of public and private road crossings including bridges and culverts;
- Maintenance of storm water treatment and management facilities;
- Habitat restoration and enhancement projects, including wetland restoration and creation; and
- Fire abatement and vegetative fuel management activities.

Activities that are ineligible for the LOP process may still be evaluated for a permit through the SIP process.

(b) Pre-Application Coordination for LOPs

Participating Applicants have undergone extensive pre-project review by the Corps, the Department, USFWS, EPA, and the Santa Ana RWQCB for several projects and activities to avoid and minimize impacts to the aquatic ecosystem to the maximum extent practicable. These applicants have satisfied some of the proposed requirements for eligibility under the LOP procedures, such as extensive pre-project coordination with the resource agencies and implementation of project modifications to comply with the Section 404(b)(1) Guidelines through avoidance and impact minimization measures. Additional pre-application coordination is not required of those Participating Applicants for projects that already have satisfied this requirement through extensive pre-application coordination during the SAMP formulation process.

Future projects proposed by other applicants or for other activities would need to undergo a commensurate level of scrutiny and review to be eligible for LOPs. The pre-application coordination procedures are summarized as follows:

1. Pre-application coordination is required for projects with permanent losses of waters of the U.S. greater than 0.1 acre or for projects with temporary impacts greater than 0.25 acre of waters of the U.S. containing native wetland and/or riparian vegetation.
2. For projects permanently impacting 0.1 acre or less of waters of the U.S. and temporarily impacting 0.25 acre or less waters of the U.S. containing native wetland and/or riparian vegetation, pre-application coordination is not required; the applicant only needs to submit an application directly to the agencies.
3. Pre-application coordination must involve the Corps, the Department, the RWQCB, the USFWS, and the EPA.
4. For the pre-application meetings, the applicant may meet with the agencies separately or in small groups, consult by telephone, or schedule a pre-application meeting to be held at the Corps office. A written record of the proceedings must be provided afterwards to the Corps, documenting substantive issues discussed, agency recommendations, and any pertinent conclusions.

5. In preparation for the pre-application meeting, the applicant must provide required information to the agencies at least two weeks prior to the meeting. The specific required information is provided in Section 3.3.2(c) of the Corps SAMP document (Corps, 2008).

The Corps would make an initial determination that the project may qualify for the LOP procedures based on a preliminary determination that the project meets the 404(b)(1) Guidelines, that the project is consistent with the SAMP, and that standard individual permit processing with Public Notice review would not result in a substantive change in the proposed project or compensatory mitigation. If the Corps makes an initial determination that the project may not qualify for the LOP procedures, the Corps would provide recommendations that would enable the project to qualify for the LOP procedures. The specific steps for the Corps processing of the LOP is provided in the SAMP document (Corps, 2008) Section 3.3.2(d).

(c) Consistency of Eligible Activities with the SAMP LOP Procedures

Proposed projects or activities not included in the extensive pre-application review process during SAMP formulation would need to undergo the same level of scrutiny and review to be eligible for LOPs. Applicants must demonstrate the proposed activity and compensatory mitigation are consistent with the SAMP. The consistency requirements for each of the covered activities are the same (i.e., they meet the terms and conditions of the LOP procedures).

Table 2-3 summarizes the general conditions that apply to the LOPs. A detailed summary of the LOP is provided in Appendix C-1, Corps Special Public Notice for the LOP.

Table 2-3. Proposed General Conditions for San Diego Creek Watershed Letter of Permission

Condition	Description
1. Avoidance and Minimization	The permittee must provide a written statement describing avoidance and minimization measures used to minimize discharges to jurisdictional waters at the project site to the maximum extent practicable.
2. Ineligible Impacts	Projects not eligible for this LOP process include projects that substantially alter a compensatory mitigation site and projects that involve the conversion of a soft-bottom channel to a concrete-lined channel within San Diego Creek, Peters Canyon Wash, Hicks Canyon Wash, Serrano Creek, and Borrego Canyon Wash. Those proposed projects must be evaluated using a SIP.
3. Mitigation Policy	The permit must comply with the SAMP mitigation framework, including the Strategic Mitigation Plan, established in conjunction with the proposed permitting procedures.
4. Soil Erosion and Siltation Controls	Appropriate erosion and siltation controls, such as siltation or turbidity curtains, sedimentation basins, and/or hay bales or other means designed to minimize turbidity in the watercourse to prevent exceedances of background levels existing at the time of project implementation, shall be used and maintained in effective operating condition during project implementation Projects are exempted from implementing controls if site conditions are such that the proposed work would not increase turbidity levels above the background level existing at the time of the work. All exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be stabilized at the earliest practicable date to preclude additional damage to the project area through erosion or siltation and no later than November of the year the work is conducted to avoid erosion from storm events.
5. Equipment	If personnel would not be put into any additional potential hazard, heavy equipment working in or crossing wetlands must be placed on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbance such as using low pressure equipment. Temporary construction mats shall be removed promptly after construction.
6. Suitable Material	No discharge of dredged or fill materials in jurisdictional waters may consist of unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.) and material discharged must be free from toxic pollutants in toxic amounts (See Section 307 of the Clean Water Act).
7. Management of Water Flows	To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. To the maximum extent practicable, the activity must provide for the retention of excess flows from the site and for the maintenance of surface flow rates from the site similar to pre-project conditions, while not increasing water flows from the project site, relocating water, or redirecting water flow beyond pre-project conditions unless it benefits the aquatic environment (e.g. stream restoration or relocation activities).

Condition	Description
8. Removal of Temporary Fills	Any temporary fills must be removed in their entirety and the affected areas returned to their pre-existing conditions, including any native riparian and/or wetland vegetation. If an area impacted by such temporary fill is considered likely to naturally re-establish native riparian and/or wetland vegetation within two years to a level similar to pre-project or pre-event conditions, the permittee will not be required to restore the riparian and/or wetland vegetation. However, Exotic Species Management may be required to prevent the establishment of invasive exotic vegetation. (See Condition #13).
9. Preventive Measures	Measures must be adopted to prevent potential pollutants from entering the watercourse. Within the project area, construction materials and debris, including fuels, oil, and other liquid substances, shall be stored in a manner as to prevent any runoff from entering jurisdictional areas.
10. Staging of Equipment	Staging, storage, fueling, and maintenance of equipment must be located outside of the waters in areas where potential spilled materials will not be able to enter any waterway or other body of water.
11. Fencing of Project Limits	Prior to initiation of the project, the boundaries of the project's impact area must be delimited by the placement of temporary construction fencing, staking and/or signage. Any additional jurisdictional acreage impacted outside of the approved project footprint shall be mitigated at a 5:1 ratio. In the event that additional mitigation is required, the type of mitigation shall be determined by the Corps and may include wetland enhancement, restoration, creation, or preservation.
12. Avoidance of Breeding Season	With regard to federally listed avian species, avoidance of breeding season requirements shall be those specified in the Section 7 consultation for the LOP procedures. For all other species, initial vegetation clearing in waters of the U.S. must occur between September 15 and March 15, which is outside the breeding season. Work in waters may occur during the breeding season between March 15 and September 15 if bird surveys indicate the absence of any nesting birds within a 50-foot radius.
13. Exotic Species Management	All giant reed (*Arundo donax*), salt cedar (*Tamarix spp*.), and castor bean (*Ricinus communis*) must be removed from the affected areas and ensure that the affected area remains free from these invasive, non-native species for a period of five years from completion of the project.
14. Site Inspections	The Corps shall be allowed to inspect the site at any time during and immediately after project implementation. In addition, compliance inspections of all mitigation sites must be allowed at any time.
15. Posting of Conditions	A copy of the LOP conditions shall be included in all bid packages for the project and be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request.
16. Post-Project Report	Within 60 days of completion of impacts to waters, as-built drawings with an overlay of waters that were impacted and avoided must be submitted to the Corps. Post-project photographs which document compliance with permit conditions, must also be provided.
17. Water Quality	An individual Section 401 water quality certification must be obtained (see 33 CFR 330.4(c)).
18. Coastal Zone Management	An individual California state coastal zone management consistency concurrence must be obtained or waived where the project may affect the Coastal Zone (see 33 CFR 330.4(d)).

Condition	Description
19. Endangered Species	(a) No activity is authorized which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA) or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall not begin work on the activity until notified by the Corps that the requirements of the ESA have been satisfied and that the activity is authorized. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements (c) Non-federal permittees shall notify the district engineer if any listed species of designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. (d) As a result of formal or informal consultation with the USFWS or NMFS, the district engineer may add species-specific regional endangered species conditions to the LOPs. (e) Authorization of an activity by an LOP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their World Wide Web pages at http://www.USFWS.gov/carlsbad and http://www.noaa.gov/fisheries.html respectively.

Condition	Description
20. Historic Properties	(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the NHPA have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. (c) Non-federal permittees must submit with their application information on historic properties that may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the SHPO or Tribal Historic Preservation Officer (THPO), as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties that the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed. (d) Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA Section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. (e) Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

Condition	Description
21. Air Quality	No activity is authorized that causes or contributes to any new violation of national ambient air quality standards, increases the frequency or severity of any existing violation of such standards, or delays timely attainment of any such standard or interim emission reductions, as described in the applicable California State Implementation Plan for the South Coast Air Basin. As part of the Corps application package, the applicant shall submit an air quality emission and impact analysis for the proposed activity if the project would result in long-term or permanent stationary (point or area) source or indirect mobile source emissions, or if the proposed activity would result in area source and direct mobile source emissions that exceed the annual *de minimis* emissions thresholds for any criteria air pollutant or its precursors.

The use and implementation of the LOP procedures for the review, coordination, and decision making of Corps permit applications is contingent on compliance with the terms and conditions of the LOP procedures. Should a permittee become non-compliant with permit conditions, the Corps may suspend, revoke, or modify the permit and assess administrative penalties. Pursuant to Section 309(g) of the CWA, the Corps is able to levy Class I Administrative Penalties of up to $11,000 per violation of a permit Special Condition, to a maximum of $27,000.

RGP

Pursuant to its authority under 33 CFR § 325.2(e)(2) and in accordance with the procedures for processing permits (33 CFR Part 325), the Corps proposes to establish the San Diego Creek Watershed Maintenance RGP to authorize discharges of dredged or fill materials resulting in temporary impacts up to 0.5 acre of waters of the U.S., of which only 0.1 acres may be vegetated with native riparian and/or wetland vegetation. Permanent losses of waters of the U.S., including impacts from fills, flooding, excavation (beyond a maintenance baseline), or drainage would not be permitted under this RGP. Areas eligible for the use of this RGP are limited to aquatic resources located outside of the aquatic resource integrity areas.

Temporary impacts from the discharge of dredged and/or fill materials into waters of the U.S. may be authorized under this RGP, including the following activities:

- Repair, rehabilitation, and replacement of currently serviceable outfall structures, utility lines, pump stations, bank stabilization structures, concrete flood control structures, weirs, drop structures, grade stabilizers, at-grade road crossings, culverts, bridges, pilings, and piers;
- Temporary construction activities and installation of temporary cofferdams, water diversion structures, and access roads; and
- Removal of accumulated sediment in flood control channels and basins (debris, retention, and detention) to restore the facility to maintenance baselines and within its design capacity.

This RGP would allow a permittee to commence work in eligible areas 15 days after the Corps receives proper written notification. Upon receipt of a complete notification and within the 15-day notification period, the Corps may verify the activity with a letter and add any special conditions. If a notification is not complete, the Corps would notify the applicant within 7 days of the needed information items and the applicant would be required to resubmit. If the Corps provides no response within 15 days after complete

notification, the project proponent may assume Corps approval of the work. A summary of the Corps proposed general conditions for the RGP is provided in Table 2-4. A detailed summary of the RGP is provided in Appendix C-2, Corps Special Public Notice for the RGP.

Table 2-4. Proposed General Conditions for San Diego Creek Watershed Regional General Permit

Condition	Description
1. Expiration	The RGP will expire five years from the date of its authorization. Further reauthorizations of the RGP will be contingent upon compliance with permit conditions, including the provision of notifications. Failure to comply with these conditions could result in the suspension or revocation of the permit prior to its expiration date, or its non-renewal.
2. Impact Limits	The RGP authorizes up to 0.5 acre of temporary impacts, of which up to 0.1 acre may be vegetated by predominantly native wetland vegetation. Non-native wetland vegetation does not count to the 0.1-acre threshold. For facilities with an established maintenance baseline, vegetation over 0.1 acre of vegetation may be removed only if the work is consistent with the established maintenance baseline.
3. Eligible Areas	The RGP shall be available for use in areas outside of the aquatic resource integrity areas (Figures 2-2 and 2-3).
4. Notification	The permittee must provide the Corps with prior notification for each separate maintenance activity at each site. A complete notification includes the following information: 1. Name, address and telephone numbers of the applicant, and appropriate point of contact and their address and phone number; 2. Project description of proposed activities; 3. Pre-project photographs of the project site; 4. A site location map and view of the project showing areas and acreage to be impacted, including any areas with native riparian and/or wetland vegetation; submit on 8.5" x 11" sheets; 5. Location coordinates: latitude/longitude or UTM's; 6. Volume, type and source of material to be temporarily placed into waters of the United States; 7. Total area of waters of the United States to be directly and indirectly affected; and 8. Proposed project schedule.
5. Soil Erosion and Siltation Controls	Appropriate erosion and siltation controls such as siltation or turbidity curtains, sedimentation basins, and/or hay bales or other means designed to minimize turbidity in the watercourse to prevent exceedences background levels existing at the time of project implementation, shall be used and maintained in effective operating condition during project implementation. Projects are exempted from implementing controls if site conditions preclude their use, or if site conditions are such that the proposed work would not increase turbidity levels above the background level existing at the time of the work. All exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be stabilized at the earliest practicable date to preclude additional damage to the project area through erosion or siltation and no later than November of the year the work is conducted to avoid erosion from storm events.
6. Equipment	If personnel would not be subjected to additional, potential hazardous conditions, heavy equipment working in or crossing wetlands must be placed on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbance such as using low pressure equipment. Temporary construction mats shall be removed promptly after construction.

Condition	Description
7. Suitable Material	No discharge of dredged or fill materials into jurisdictional waters may consist of unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.) and material discharged must be free from toxic pollutants in toxic amounts (per Section 307 of the Clean Water Act).
8. Management of Water Flows	To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. To the maximum extent practicable, the activity must provide for the retention of excess flows from the site and for the maintenance of surface flow rates from the site similar to pre-project conditions, while not increasing water flows from the project site, relocating water, or redirecting water flow beyond pre-project conditions unless it benefits the aquatic environment (e.g., stream restoration or relocation activities).
9. Removal of Temporary Fills	Any temporary fills must be removed in their entirety and the affected areas returned to their pre-existing conditions, including any native riparian and/or wetland vegetation. If an area impacted by such temporary fill is considered likely to naturally reestablish native riparian and/or wetland vegetation within two years to a level similar to pre-project or pre-event conditions, the permittee will not be required to do restore the riparian and/or wetland vegetation. However, Exotic Species Management may be required to prevent the establishment of invasive exotic vegetation. (See Condition #14).
10. Preventive Measures	Measures must be adopted to prevent potential pollutants from entering the watercourse. Within the project area, construction materials and debris, including fuels, oil, and other liquid substances, shall be stored in a manner as to prevent any runoff from entering jurisdictional areas.
11. Staging of Equipment	Staging, storage, fueling, and maintenance of equipment must be located outside of the waters in areas where potential spilled materials will not be able to enter any waterway or other body of water.
12. Fencing of Project Limits	Prior to initiation of the project, the boundaries of the project's impact area must be delimited by the placement of temporary construction fencing, staking, and/or signage. Any additional jurisdictional acreage impacted outside of the approved project footprint shall be mitigated at a 5:1 ratio. In the event that additional mitigation is required, the type of mitigation shall be determined by the Corps in accordance with the SAMP mitigation framework and may include wetland enhancement, restoration, creation, or preservation.
13. Avoidance of Breeding Season	With regard to federally listed avian species, avoidance of breeding season requirements shall be those specified in the Section 7 consultation for the RGP. For all other species, initial vegetation clearing in waters of the U.S. must occur between September 15 and March 15, which is outside the breeding season. Work in waters may occur during the breeding season between March 15 and September 15 if bird surveys indicate the absence of any nesting birds within a 50-foot radius.
14. Exotic Species Management	All giant reed (*Arundo donax*), salt cedar (*Tamarix spp*.), and castor bean (*Ricinus communis*) must be removed from the affected area and ensure that the affected area remains free from these invasive, non-native species for a period of five years from completion of the project.
15. Site Inspections	The Corps shall be allowed to inspect the site at any time during and immediately after project implementation. In addition, compliance inspections of all mitigation sites shall be allowed at any time.
16. Posting of Conditions	A copy of the RGP general conditions shall be included in all bid packages for the project and be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request.

Condition	Description
17. Water Quality	An Section 401 water quality certification must be obtained unless general Section 401 certifications are issued or waived for the RGP in the project area (see 33 CFR 330.4(c)).
18. Coastal Zone Management	An individual California state coastal zone management consistency concurrence must be obtained or waived where the project may affect the Coastal Zone (see 33 CFR 330.4(d)).
19. Endangered Species	(a) No activity is authorized which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the ESA or which will destroy or adversely modify the critical habitat of such species. Non-federal permittee shall not begin work on the activity until notified by the Corps that the requirements of the ESA have been satisfied and that the activity is authorized. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. (d) As a result of formal or informal consultation with the USFWS or NMFS, the district engineer may add species-specific regional endangered species conditions to the RGP notices to proceed. (e) Authorization of an activity by an RGP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. USFWS and NMFS or their World Wide Web pages at http://www.USFWS.gov/carlsbad and http://www.noaa.gov/fisheries.html respectively.

Condition	Description
20. Historic Properties	(a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the NHPA have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. (c) Non-federal permittees must submit with their application information on historic properties that may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the SHPO or Tribal Historic Preservation Officer (THPO), as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties that the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed. (d) Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA Section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. (e) Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.
21. Mitigation Policy	Compensatory mitigation will not be necessary unless required through RGP general conditions 12, 17, 18, 19 or 20. Should compensatory mitigation be required, it shall be performed in conformance with the mitigation framework developed for the San Diego Creek SAMP, as described in the Corps SAMP document for this Watershed and the Special Public Notice for the San Diego Creek Watershed RGP.

The use and implementation of the RGP for Corps permit applications would be contingent on compliance with the terms and conditions of the RGP. Should a permittee become non-compliant with permit conditions, the Corps could suspend, revoke, or modify the permit and assess administrative penalties. Pursuant to Section 309(g) of the Clean Water Act, the Corps would be able to levy Class I Administrative Penalties of up to $11,000 per violation of a permit Special Condition, to a maximum of $27,000.

Standard Individual Permits

Proposed regulated activities that do not qualify for Section 404 authorization under the retained NWPs, the RGP, or the LOP procedures would be required to undergo a SIP application review process. Potential applicants that have not gone through the pre-application consultation for their proposed project, regardless of whether or not they participated in the SAMP pre-application process for other projects or activities, would be held to the same requirements for demonstrating compliance with the 404(b)(1) Guidelines and an alternatives analysis that projects reviewed during SAMP formulation underwent. Table 2-5 summarizes the percentage of the Watershed's aquatic resource areas ineligible for the LOP procedures or RGP, and thus subject to the SIP application process.

Projects requiring the SIP application review process include those with permanent impacts to greater than 0.1 acre of waters of the U.S. within aquatic resource integrity areas and projects that propose to convert soft-bottom channel reaches to hard-bottom channel reaches in the following mainstem drainages regardless of whether or not the affected reaches are located within aquatic resource integrity areas: Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek.

Table 2-5. Riparian areas in which certain activities may be ineligible for permitting under LOP procedures or the WSAA Process.

Subwatershed	Baseline Riparian Habitat	Riparian Habitat in Aquatic Resource Integrity Areas Ineligible for RGP, LOP Procedures, or WSAA Process		Additional Riparian Habitat Ineligible for RGP, LOP Procedures or WSAA Process for Soft-Bottom Channel Conversion Projects		Total	
	Acres	Acres	%	Acres	%	Acres*	%*
Borrego Canyon Wash	169	142	84%	18	10%	160	95%
Hicks Canyon Wash	32	19	60%	12	38%	31	97%
Peters Canyon Wash	69	19	28%	44	64%	63	91%
San Diego Creek	404	225	56%	129	32%	354	85%
Serrano Creek	145	108	75%	34	23%	142	97%
Other subwatersheds	847	573	68%	0	0%	573	68%
Total	1666	1086	65%	237	15%	1323	79%

* Numbers do not add up due to rounding.

An extensive level of data on aquatic resources and analysis of potential impacts of activities on the aquatic resources were compiled during the formulation of the SAMP, including the proposed changes to the Corps permitting program (i.e., LOP procedures, RGP, and retained NWPs). The Corps would retain its discretionary authority to require proposed regulated activities that are inconsistent with the terms and conditions of the LOP procedures, RGP and retained NWPs to undergo a level of analysis commensurate with proposed impacts and to require applicants to demonstrate that the proposed activities would not result in substantial adverse environmental impacts. Furthermore, potential applicants would be expected to implement mitigation per the SAMP Strategic Mitigation Plan and Mitigation Coordination Program. However, the Corps would retain its discretionary authority to determine whether additional special conditions would be required to control adverse impacts to the aquatic environment.

The Corps evaluation of future SIP applications and its basis for making future permit decisions would be informed by the SAMP document, this Program EIS/EIR, and the Corps Record of Decision (ROD) for the SAMP, as well as information contained in any project-specific EIRs. Moreover, the Corps would tier its project-specific environmental review for any SIP from this Program EIS/EIR, in accordance with 40 CFR 1502.20 of CEQ's NEPA regulations. Nevertheless, in evaluating proposed projects under the SIP process, the Corps would still need to assure compliance with the 404(b)(1) Guidelines, which require, except as provided for by Section 404(b)(2), that no discharge of dredged or fill material would be permitted by the Corps if the effects of the discharge, considered either individually or cumulatively, would contribute to the substantial degradation or impairment of waters of the U.S. (40 CFR Part 230).

2.1.2.4 The Department's Watershed-Specific Permitting Process

The Department's proposed alternate SAA strategy for the Watershed is the WSAA Process. The process consists of three functional habitat quality-based SAA templates (Levels 1, 2 and 3) and a SAA Templates Master Conditions List (provided in Appendix D). The Level 1 template SAAs apply to proposed activities that would alter aquatic resources outside the aquatic resource integrity areas that were not mainstem streams. The Level 2 template SAAs apply to activities that would alter mainstem stream reaches outside aquatic resource integrity areas. The Level 3 template SAAs apply to certain types of activities within aquatic resource integrity areas. All other regulated activities would require a standard SAA or Master Streambed Alteration Agreement (MSAA). The inclusion of a SAA Templates Master Conditions List allows the Department to modify the three SAA templates for future use according to specific project needs while still maintaining a high degree of efficiency and resource protection. Similar to the Corps LOP procedures, qualification for one of the three template SAAs (or MSAA tiered from this Program EIS/EIR) would be based on compliance with specified criteria, including consistency with the SAMP. Copies of the three template SAAs and the SAA Templates Master Conditions List are provided in Appendix D.

Under the Department's normal SAA process, after the Department receives a notification for a particular activity subject to FGC Section 1602 and determines that the activity will require a SAA, the Department will issue a draft SAA to the applicant. If the applicant disagrees with any protective measures in the draft SAA, and the Department and applicant cannot resolve the disagreement, the applicant may have an arbitration panel resolve the disagreement. Under the WSAA Process, the measures in a template SAA are not subject to negotiation. Hence, only those project proponents that are willing to accept a template SAA in full may participate in the WSAA Process. If a project proponent is not willing to accept a

template SAA in full, the project proponent will need to obtain a SAA from the Department through the standard SAA process described in FGC Sections 1602 and 1603.

To implement the SAMP Strategic Mitigation Plan and establish the foundation of a Mitigation Coordination Program for aquatic resource integrity areas among the SAMP Participating Applicants, and to reduce Department staff time associated with preparing and processing agreements, the Department has the option to enter into MSAAs with the City of Irvine, the Irvine Ranch Water District, County of Orange Flood Control District, and The Irvine Company. For applicants who may execute an MSAA (tiered from this Program EIS/EIR) or any of the template SAAs, the following steps would occur under the WSAA Process: the applicant provides notification to the Department; the Department determines the notification application includes adequate conditions to avoid, minimize, and mitigate for project impacts that are consistent with the WSAA Process; the applicant demonstrates all other CEQA requirements have been met; and the Department provides a letter stating that the applicant can proceed with the project subject to the conditions identified within the submitted project-specific notification. The Department would consider entering into a MSAA with other parties, if their activity has been adequately analyzed within this Program EIS/EIR, or additional analysis is conducted pursuant to the CEQA, and the project or activity meets the goals of the SAMP.

The following sections describe specific Department procedures for issuing a SAA under the San Diego Creek Watershed WSAA Process. A flow diagram that summarizes the Department's WSAA Process is provided in Figure 2-6. Table 2-6 shows a comparison between the existing SAA process and the proposed WSAA Process.

Figure 2-6. Flow Diagram for Department's WSAA Process for San Diego Creek Watershed

Table 2-6. Comparisons between current SAA/MSAA and proposed WSAA Process elements for Department SAAs within the San Diego Creek Watershed

	Current system-SAA/MSAA [1]	Proposed system-Level 1 SAA [2]	Proposed system-Level 2 SAA [2]	Proposed system-Level 3 SAA [2]	MSAA [3]
Use Area	All areas	Outside aquatic resource integrity areas, not in major streams [4]	Outside aquatic resource integrity areas, in major streams [4]	Inside aquatic resource integrity areas	All areas, with restrictions on areas within aquatic resource integrity areas
Permanent Impacts to Streambeds [5]	No limit	≤ 1.0 acre	≤ 0.5 acre	≤ 0.1 acre	Same as template SAAs depending on location
Temporary Impacts to Streambeds [5]	No limit	No limit	No limit	No limit	No limit
Eligible Activities	Any applicable streambed alteration	WSAA activity types [6]	WSAA activity types [6]	WSAA activity types [6]	WSAA activity types [6]
Review and Processing Time	Up to 90 days [7]	≤ 60 days	≤ 60 days	≤ 90 days	No Time Limit
Depth of Review / Additional Conditions beyond template?	Case-by-case (template does not apply)	Low / None or Few	Medium / None or Few	High / Yes	High / Yes
Pre-application Coordination	Not Required	Preferred	Preferred	Required	Required

Notes:

[1]Requires CEQA compliance document.

[2]Pre-developed templates will allow for greater predictability and faster processing. If project proponent desires a Level 1, 2 or 3 SAA, the arbitration process will be removed. If the project proponent disagrees, then a standard SAA or MSAA will apply. Projects would have to demonstrate compliance with CEQA. This Program EIS/EIR would suffice for CEQA clearance in some cases. Otherwise, local agencies or project proponents would prepare an additional CEQA document (which could be tiered from this Program EIS/EIR) to cover impacts not associated with a SAA. An MSAA tiered from this Program EIS/EIR would be a streamlined process as compared to a standard MSAA.

[3] MSAA is an agreement with a term of greater than five years that covers multiple projects that are not exclusively projects to extract gravel, sand, or rock; not exclusively projects that are included in a timber harvesting plan approved by the California Department of Forestry and Fire Protection; or not exclusively routine maintenance projects that the entity will need to complete separately at different time periods during the term of the agreement; and describes a procedure the entity must follow for construction, maintenance, or other projects the agreement covers.

[4]Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek

[5]Provided that project is in full compliance with all applicable SAA conditions. The term "streambeds" would include riparian habitat deemed to be in Department jurisdiction on a case-by-case basis. The acreage limits do not necessarily prevent the issuance of a SAA at a particular level, but may require a more in-depth review and the inclusion of additional, project-specific conditions.

[6]Anticipated activities eligible for WSAA Process procedures: Utility Lines (construction and/or maintenance of new and existing facilities); Flood Control Facilities Maintenance (construction and/or maintenance of new and existing facilities); Road Crossings including Bridges and Culverts (construction and/or maintenance of new and existing crossings); Land Development for Residential, Commercial, Industrial, Institutional and Recreational Facilities (construction and/or maintenance of new and existing land development and recreational facilities); Storm Water Treatment and Management Facilities (construction and/or maintenance of new and existing facilities); Habitat Restoration and Enhancement Projects (construction and/or maintenance of new and existing projects); and Fire Abatement and Vegetative Fuel Management Activities.

[7]Standard SAA includes 30 days to determine if notification is complete, and an additional 60 days for completion of draft SAA. The 60-day limit does not apply to long-term agreements (> 5 years in duration) or MSAA; thus, these types of agreements may take longer than 90 days to review and process.

Pre-Application Coordination and Consultation Meeting

The Department intends to be an active participant in the pre-coordination activities required by applicants that are receiving an LOP from the Corps. The Department's purpose for the pre-application coordination/consultation meeting would be to review a proposed project/activity's effects to rivers, streams and/or lakes and associated biological resources, and to discuss project avoidance of biological resources, minimization measures, and compensation for impacts to biological resources, when applicable. The meeting would also focus on how the proposed project/activity is in, or would be modified to be in substantial conformance relative to impacts and mitigation described in the SAMP and this Program EIS/EIR, and what level of additional CEQA review, if any, would be necessary.

To obtain full benefit of the streamline process built into the WSAA Process, the Department would recommend that applicants not obtaining an LOP from the Corps consult with a Department staff person assigned to implementation of the WSAA Process. Depending on the nature of the proposed project and Department staff's familiarity with the project site, the intricacy of the consultation could widely vary. For example, a consultation for a water pipeline replacement project in a low integrity area that Department staff is already familiar with may consist of a telephone conference call, where the applicant and Department would discuss the area to be impacted, biological resources at the site, timing of work, duration of work, appropriate work conditions to be included in the notification, and elements to be included in a bank stabilization/native vegetation restoration plan to address any temporary loss of vegetation and stabilize the bank to protect aquatic resource values. In contrast, a more complex project such as a public road across a moderate integrity area, may require that Department staff and applicant meet at the site. Prior to that site meeting, the applicant may need to provide the Department staff with preliminary construction plans, biological survey reports, and hydrology studies. Discussion topics at the site meeting could include: 1) the need for the road; 2) alteration to project design to incorporate minimization measures that reduce impacts to aquatic resources; 3) provisions for improved fish and wildlife movement, and other features to reduce the indirect effects on biological resources; 4) construction timing and duration; 5) work conditions; and 6) mitigation sites and mitigation plans.

Notification

FGC Section 1602 requires any person, state or local governmental agency, or public utility to notify the Department before beginning any activity that would do one of the following:

1. Substantially obstruct or divert the natural flow of a river, stream, or lake;
2. Substantially change the bed, channel, bank of a river, stream or lake;
3. Use any material from the bed, channel, or bank of a river, stream or lake; and/or
4. Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

FGC Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State of California.

To notify the Department of any of the activities described above, applicants would complete the following steps:

Step 1: Complete the Notification of Lake or Streambed Alteration form (Form FG 2023 (Rev. 7/06)) ("notification form"). The notification form would also include the following supplemental information: a substantial conformance statement (as described below), and a request for an SAA based on the SAA templates (Level 1, 2, or 3). The supplemental information would be considered part of the general notification process (under the WSAA Process), and would not be explicitly described (e.g., Figure 2-6 mentions "notification," although it is implied that the notification includes the supplemental information).

The supplement information would include substantial conformance statements that explain in sufficient detail how the proposed project/activity is in substantial conformance with the activity discussed in the SAMP and analyzed in this Program EIS/EIR, and that explains in sufficient detail how the proposed mitigation for the project/activity is in substantial conformance with the mitigation framework identified in the SAMP and analyzed in this Program EIS/EIR. Focused level delineations and biological assessments would be provided and compared against the Corps PLD (Lichvar et al., 2000) (Appendix B-1 of this document). If the project/activity is not in substantial conformance, the project would not qualify for one of the template SAAs or a MSAA (tiered from this Program EIS/EIR), and the notification would be processed as a standard SAA.

If a project does not qualify for authorization under either the Corps SAMP RGP, LOP procedures, the retained NWPs or SIP, and affects Corps and Department jurisdiction, it would be, by default, not in conformance with the SAMP, and would be processed by the Department as either a standard or long-term agreement. However, the Department would use the SAMP Analytical Framework, the SAMP Strategic Mitigation Plan, Mitigation Coordination Program, the analysis in this Program EIS/EIR, and project-specific CEQA documentation when evaluating and authorizing projects by the issuance of a standard or long-term agreement. Depending on the specific project, the Department could require additional conditions of work and compensatory mitigation beyond what is identified in the SAMP and SAA Templates Master Conditions List for a project that does not conform to the SAMP.

Applicants proposing projects that have impacts below the Corps identified acreage impact thresholds as stated in the SAMP RGP or LOP, would still be required to notify the Department. If the project is consistent with the SAMP goals, and the activity was analyzed in this Program EIS/EIR or in a project-specific CEQA document, the Department would process the notification package pursuant to the WSAA Process. If the applicant's project is not eligible for a template SAA, or if the applicant does not have a MSAA with the Department, the applicant could sign a project-specific SAA.

If a project is authorized by the Corps through the issuance of a SIP, the Department may require conditions in addition to those listed on the SAA Templates Master Conditions List to protect fish and wildlife resources, and the period set forth in the FGC would apply. Additional conditions, including compensatory mitigation may be incorporated into a SAA, and both the applicant and the Department would sign this agreement.

Step 2: The applicant would determine the notification fee that would need to be submitted with the completed notification form.

Step 3: The applicant would submit the completed notification form, supplemental information, and fee to the Department.

Proposed Agreement Conditions

Each template SAA (levels 1, 2, and 3) contains a specific list of conditions that the project applicant would agree to implement to help avoid, minimize, and mitigate any substantial or potentially significant effects that the activity could have on rivers, streams and lakes, and associated fish and wildlife resources. The Department can modify the three SAA templates for specific projects utilizing conditions from the SAA Templates Master Conditions List according to specific project needs. For consistency with the Corps proposed LOP, the Department has established the same mitigation requirements including compensatory mitigation ratios for temporary and permanent impacts, but has additional compensatory mitigation for oak, walnut, and sycamore woodland impacts. When implementing a project/activity's mitigation, it is appropriate to apply conditions to the work activity when biological resources are within or adjacent to the mitigation site. The SAA Templates Master Conditions List, included in Appendix D, contains full descriptions of the mitigation requirements and conditions. Table 2-7 provides a summary of this list by condition category.

Table 2-7. Summary List of San Diego Creek Watershed SAA Templates Master Conditions *.

WSAA Process - Condition Category	Master Condition Nos.
Compensatory Mitigation and General Mitigation Ratios for Temporary and Permanent Impacts to Riparian Habitat, as well as Impacts to Oak/Walnut/Sycamore woodlands	1
General Habitat Mitigation and Monitoring Reports	2
General Mitigation Success Criteria	3
Oak, Walnut, and Sycamore Woodland Mitigation and Monitoring Reports	4
Oak, Walnut, and Sycamore Woodland Success Criteria	5
Oak, Walnut and Sycamore Tree Relocation	6
Grading for Mitigation Sites	7
Biological Surveys and Time Restrictions	8 – 20
Aquatic and Terrestrial Species Specific Protection Conditions	21 – 22
Predator Control	23
Vegetation Removal	24 – 34
Routine Channel Maintenance	35 – 42
Exotic Vegetation Eradication Control – Wildlife and Habitat Protection (associated with mitigation requirement)	43
Safeguards	44 – 45
Placement of In-stream Structures – Aquatic and Wildlife Migration Protection	46 – 64
Small Dam and Pond Construction	65 – 76
Directional Drilling	77
Fill and Spoils	78– 87
Turbidity and Siltation	88 – 95
General Conditions which Apply to All Projects • Equipment Access • Pollution, Sedimentation and Litter	 96 – 109 110 – 122

WSAA Process - Condition Category	Master Condition Nos.
• Other General Conditions	123 – 130
Additional Mitigation Conditions	131-141
Additional Resource Protection	142-155
Fisheries Species Protection	156-162
Other General Conditions	163-167

* For a description of each condition, see SAA Templates Master Conditions List contained in Appendix D.

Review of Notification Package and Issuing Authorization

After the Department receives a notification, it would determine whether the notification package was complete. The Department would have 30-days to make its completeness determination, unless the applicant has requested the agreement term for the submitted project to be longer then five years (see also Figure 2-6 and Table 2-6). The 30-day period would not apply to notifications for long term agreements (see FGC Section 1605(g)(5)), or when one of the following occurs:

1. The Department and applicant mutually agree to extend the 30-day period.
2. The Department determines that an onsite inspection is required before it can make its completeness determination, but the applicant is unable to schedule a date for the inspection that would reasonably allow the Department to make the determination within the 30-day time period.
3. The Department determines that an onsite inspection is required before it can make its completeness determination, but the applicant or the owner of the property where the project would take place (if different from the applicant) refuses to allow Department personnel to enter the property. In that case, the Department may refuse to process the notification, in which case the 30-day period would no longer apply.

After the Department determines that the notification package is complete, it would evaluate the project and determine whether the project or activity type is covered by the SAMP and WSAA Process. The evaluation would include the following: if the project or activity type is adequately analyzed in this Program EIS/EIR; whether the conditions of work identified in the notification package adequately protect fish, wildlife, and plants; whether the compensatory mitigation plan (when applicable) is in substantial conformance with the mitigation framework identified in the SAMP; and whether the mitigation adequately compensates for effects to biological resources. If the Department did not make a specific determination that the notification package is complete, the notification would be deemed complete per statute at the end of the 30th day.

After the notification package is deemed complete, for those applicants seeking authorization through the WSAA Process, the Department would have up to 60 days to provide one of the following:

1. A letter stating the project may proceed pursuant to the terms and conditions including mitigation identified in the notification package;
2. A letter stating that the proposed project and conditions appear to meet the goals of the WSAA Process, but that the Department cannot make a determination that the project has satisfied Section 1602 of the FGC until: a) the CEQA process has been completed by the lead

agency, and b) the Department determines that the project has not substantially changed from the project described in the notification, or

3. Provide an abbreviated draft SAA with proposed additional conditions. This agreement would be signed by the applicant and the Department prior to the commencement of work.

If number 2 above occurs, the Department would issue the letter identified in number 1 above within 30 days after the applicant provides the Department written documentation that the lead agency has completed the CEQA process, including payment of Department filing fee per FGC Section 711.4.

Depending on staffing and prioritized workload, it is anticipated that for those projects that were the subject of a coordination meeting or consultation with the Department, and where the Department received a complete notification package together with the correct notification fee that the Department's determination of notification completeness and issuing of its "authorization to proceed" would occur in fewer days than indicated above. The Department could issue its authorization to proceed at the same time it makes its notification completeness determination. For example, for a project conforming to one of the template SAAs (Level 1, 2, or 3), the Department's response may include a signed draft SAA.

Long-Term Agreements

The WSAA Process has been proposed to allow for an agreement to exceed five years as provided for in Section 1605(g) of the FGC. Participating entity(ies) must agree to provide a status report to the Department every four years. The status report would be delivered to the Department no later than 90 days prior to the end of each four-year period, and would need to include all of the following information:

- A copy of the original SAA (or MSAA);
- The status of the activity covered by the SAA (or MSAA);
- An evaluation of the success or failure of the measures in the SAA (or MSAA) to protect the fish and wildlife resources that the activity may substantially adversely affect; and
- A discussion of any factors that could increase the predicted adverse impacts on fish and wildlife resources, and a description of the resources that may be adversely affected.

The Department would review the four-year status report, and conduct an onsite inspection to confirm that the entity complies with the agreement and that the measures in the agreement continue to protect fish and wildlife resources. If the Department determined that the measures in the agreement no longer protect fish and wildlife resources that were being substantially adversely affected by the activity, the Department, in consultation with the entity, and within 45 days of receipt of the report, would impose one or more new measures to protect fish and wildlife resources affected by the activity.

2.1.2.5 Coordinating Agencies and Other Regulatory Approvals

Applicants may also be subject to permit requirements of agencies besides those of the Corps and the Department. These include: 1) Section 401 Water Quality Certification (or waiver thereof) and Waste Discharge Requirements from the RWQCB; 2) consistency determination under the Coastal Zone Management Act from the California Coastal Commission; and 3) compliance with the federal Endangered Species Act from the USFWS and California Endangered Species Act from the Department. Section 3.5 of the SAMP document (Corps, 2008) contains a detailed discussion of the typical coordinating agencies' approvals needed prior to the Corps/Department's final permit actions.

2.1.2.6 SAMP Mitigation Framework

A component of the SAMP/WSAA Process regulatory program modifications for the Watershed includes an approach to mitigation that is informed by the SAMP Analytical Framework. Mitigation, including avoidance and minimization of impacts and compensation for unavoidable impacts, is within the regulatory purviews of the Corps and the Department. Both agencies have agreed to a set of mitigation policies, as well as to implement the SAMP Strategic Mitigation Plan (third element of the SAMP). Further, the agencies have agreed to a Mitigation Coordination Program (fourth element of the SAMP) to improve the effectiveness and efficiency of mitigation occurring within the Watershed. Details of the Strategic Mitigation Plan and Mitigation Coordination Program are provided herein in Sections 2.1.3 and 2.1.4, respectively.

Proposed and future projects with jurisdictional impacts in the Watershed would be considered in light of the SAMP permitting program and mitigation framework. Compensatory mitigation in the form(s) of preservation, creation, restoration, and/or enhancement activities would be required to offset permanent and temporary impacts to aquatic resources. However, the Department and the Corps would retain their respective discretionary authorities to augment the mitigation framework requirements for any proposed project that is inconsistent with the SAMP or that fails to meet the terms and conditions of the LOP, RGP, retained NWPs, or WSAA Process. To implement the Strategic Mitigation Plan, the Corps proposes to implement the following mitigation policies (a-h) as part of its authorizations of regulated activities impacting aquatic resources within the Watershed. The Department's WSAA Process includes provisions for mitigation to be performed in accordance with the SAMP mitigation policies and Strategic Mitigation Plan.

(a) Mitigation Sequencing

Under the SAMP, the mitigation sequencing required pursuant to the Section 404(b)(1) Guidelines (40 CFR Part 230 and the MOA between EPA and the Department of the Army, dated February 6, 1990), whereby the discharge of dredged or fill materials into aquatic resources within the Corps jurisdiction (i.e., waters of the U.S.) must first be avoided and/or minimized to the maximum extent practicable, is being applied to the watershed scale as well as the site scale. An activity seeking authorization under the SAMP permitting framework and evaluated in this Program EIS/EIR would be deemed to have undertaken the requisite avoidance measures by avoiding aquatic resources identified as part of the aquatic resource integrity areas. Projects directly and permanently impacting substantial amounts of aquatic resources with moderately to well-developed wetland or riparian vegetation located outside of aquatic resource integrity areas could still need to demonstrate avoidance, but without a formal alternatives analysis under the LOP procedures or RGP. Minimization measures would be met by demonstrating consistency with the LOP and RGP conditions. Compensatory mitigation would be required to offset any unavoidable impacts that would occur after avoidance and minimization measures have been implemented to the maximum extent practicable, pursuant to the 404(b)(1) Guidelines.

(b) No Net Loss in Acreage and Functions

Consistent with the Corps-EPA MOA and Corps RGL 02-02 and proposed mitigation rule (USACE, 2002; USACE and EPA, 2006), overall values and functions of wetlands should not be reduced within the Watershed on a program level. In addition, all permanent impacts to aquatic resources (wetland and non-

wetland) would be mitigated at a minimum of 1:1 ratio (acreage created and restored to acreage permanently impacted).

(c) Preparation of a Mitigation Plan

All habitat mitigation and monitoring plans would need to conform with the "Los Angeles District's Final Mitigation Guidelines and Monitoring Requirements," (Corps, 2004), or as subsequently revised. A copy of the guidelines is available at http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf

(d) Prioritization of Mitigation Sites

To the extent practicable, the selection of compensatory mitigation sites should be prioritized to support implementation of the Strategic Mitigation Plan (Section 2.1.3), which is informed by ERDC's restoration plan (Smith and Klimas, 2004) (Appendix B-3), and available online at http://www.spl.usace.army.mil/samp/sdc_rest.pdf

(e) Recommended Restoration

The Corps and the Department will evaluate restoration design plans for compensatory mitigation sites in consideration of the SAMP Strategic Mitigation Plan (Section 2.1.3 and site selection and design criteria provided by ERDC in a Watershed restoration plan for riparian ecosystems (Smith and Klimas, 2004). The ERDC restoration plan (Appendix B-3) provides recommended restoration goals in consideration of landscape setting.

(f) Delays in Implementation of Compensatory Mitigation

Implementation of compensatory mitigation should begin according to a Corps-approved construction schedule. The Corps and the Department expect the permittee to schedule the installation of mitigation projects to avoid and minimize temporal losses in function, such that offsite mitigation shall be initiated upfront, and onsite mitigation shall be scheduled to account for project site readiness. Any delays in implementation of compensatory mitigation beyond the Corps-approved final construction schedule that extends installation into the next year's growing season may result in penalties of up to 25% increase above the initial compensatory mitigation acreage for every 3-month delay beyond the expected construction season. If the permittee anticipates delays, the permittee should notify the Corps and the Department to provide explanations for the delay and the new expected start date. The Corps and the Department will advise the permittee of each 3-month delay and re-calculate the compensatory mitigation acreage. The Corps will give due consideration to special circumstances and may waive the penalty in cases where delayed compensatory mitigation was a result of natural causes beyond the permittee's control, including without limitation, fire, flood, storm, and earth movement, or as a result of any prudent action taken by the permittee under emergency conditions to prevent, abate, or mitigate significant injury to persons and/or the property resulting from such causes. Note that any action undertaken during emergency conditions must receive prior authorization from the Corps if the action involves a discharge of dredged or fill material into aquatic resources within the Corps jurisdiction.

(g) Compensatory Mitigation for Temporary Impacts

The following mitigation measures would be required for projects or activities with temporary impacts to aquatic resources.

- Restoration On-Site

Following a temporary impact (e.g. construction impact), an area shall be restored to pre-construction elevations within one month. Re-vegetation shall commence within three months after restoration of pre-construction elevations and be completed within one growing season. If re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter shall not be re-vegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces should be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water.

- Offsets for Temporal Loss

Temporary impacts to riparian habitat authorized by LOPs and standard individual permits shall be compensated through consideration of the time needed to fully recover temporarily impacted functions. Temporal loss will apply when compensatory mitigation does not occur prior to or concurrent with impacts, and only to the habitat index, since the other two indices (i.e., water quality and hydrology) should not have a temporal lag. In general, the following ratios of compensatory mitigation will apply to offset temporal losses of habitat function:

- impacts to unvegetated aquatic resources will not require additional compensatory mitigation,
- impacts to herbaceous vegetation will require an additional 0.5:1 ratio of compensatory mitigation;
- impacts to shrubby vegetation will require an additional 1:1 ratio of compensatory mitigation,
- tree vegetation will require an additional 2:1 ratio of compensatory mitigation; and
- tree vegetation with dense understory vegetation will require an additional 3:1 ratio of compensatory mitigation.

Compensatory mitigation required above replacement (1:1) may be satisfied through additional restoration and/or enhancement efforts within the aquatic resource integrity areas of the Watershed, or by contribution of fees equivalent to per acreage costs to a Corps and Department-approved third party mitigation program or mitigation bank operating within the Watershed.

- Preparation of a Compensatory Mitigation Plan

All on-site revegetation efforts require preparation of a habitat mitigation and monitoring plan, which must be approved by the Corps and the Department prior to implementation. The plan shall conform with the "Los Angeles District's Final Mitigation Guidelines and Monitoring Requirements." (Corps, 2004), or as subsequently revised.

(h) Compensatory Mitigation for Permanent Impacts

Projects with unavoidable permanent impacts to aquatic resources shall provide compensatory mitigation in conformance with the following requirements.

- Mitigation Ratios

The Corps will determine mitigation ratios in consultation with the Department and the applicant in a manner to achieve a no net loss of aquatic resource function and acreage in the Watershed. Specifically, ratios will be based on area-weighted gain in functions at the compensatory mitigation site to compensate for area-weighted loss of functions at the impact site. Functions will be measured in terms of functional units with respect to hydrology, water quality, and habitat indices. ERDC calculated these three indices for all major reaches in the Watershed based on current conditions and after achievement of restoration goals. The ratios will essentially be:

$AREA_{MIT} / AREA_{IMP} = FuLOSS_{IMP} / FuGAIN_{MIT}$, whereby

$AREA_{MIT} / AREA_{IMP}$ = mitigation ratio

$AREA_{MIT}$ = area of mitigation

$AREA_{IMP}$ = area of impact

$FuLOSS_{IMP}$ = loss in functional index at the impact site

$FuGAIN_{MIT}$ = gain in functional index at the mitigation site

and at a minimum, $AREA_{MIT} * FuGAIN_{MIT} = AREA_{IMP} * FuLOSS_{IMP}$.

The applicant will supply the $AREA_{IMP}$ and the Corps will use the data available from ERDC for $FuLOSS_{IMP}$. The applicant will work in consultation with the Corps and the Department to identify an appropriate mitigation site to offset impacts. $AREA_{MIT}$ will depend on the capacity for $FuGAIN_{MIT}$. Final site selection will take into account the available hydrology to support the proposed mitigation, site access, and other relevant parameters.

For rarer, non-riparian/riverine resources such as estuarine wetlands, the formula does not apply. In such cases, the Corps, in consultation with the Department will use a functional and acreage-based assessment to determine the appropriate mitigation ratios. The Corps and the Department recommend the applicant conduct an assessment using generally acceptable methodologies such as the California Rapid Assessment Method (CRAM) and approved site-level standardized monitoring protocols or the Hydrogeomorphic Approach (HGM) to evaluate the baseline conditions of the impact and potential mitigation sites.

As a reminder, implemented ratios shall always be greater or equal to 1:1, even if the actual calculated ratios to achieve functional replacement are less than 1:1, which would most likely to occur when the impacted resources have low functions as compared to the functions of the mitigation site. However, if the calculated ratio is less than 1:1, mitigation at 1:1 replacement of acreage will generate a functional gain that exceeds the calculated ratio and will reduce additional mitigation requirements for any temporal loss (see 3 below).

- No Loss in Any Functional Type

Using the metric developed by the Corps to calculate compensatory mitigation in the Watershed will ensure that losses to any function of the aquatic resources will be offset. Specifically, compensatory mitigation shall ensure against loss of any function as characterized by all three area-weighted indices (i.e., for hydrology, water quality, and habitat). Even if there is a gain in one or two of the indices, the overall mitigation must ensure that there is not a loss in any of the three indices. Losses can be further offset by increasing the mitigation ratio.

- Temporal Loss

Temporal loss for permanent impacts will use the same guidelines as for temporary impacts (Section 3.6(g)(2)). Temporal loss will apply when compensatory mitigation does not occur prior to or concurrent with impacts and only to the habitat index, since the other two indices (i.e., water quality and hydrology) should not have a temporal lag. In general, the following ratios of compensatory mitigation will apply to offset temporal losses of habitat function:

- impacts to unvegetated aquatic resources will not require additional compensatory mitigation;
- impacts to herbaceous vegetation will require an additional 0.5:1 ratio of compensatory mitigation;
- impacts to shrubby vegetation will require an additional 1:1 ratio of compensatory mitigation;
- tree vegetation will require an additional 2:1 ratio of compensatory mitigation; and
- tree vegetation with dense understory vegetation will require an additional 3:1 ratio of compensatory mitigation.

Compensatory mitigation required above replacement (1:1) may be satisfied through additional restoration and/or enhancement efforts within the aquatic resource integrity areas of the Watershed, or by contribution of fees equivalent to per acreage costs to a Corps- and Department-approved third-party mitigation program or mitigation bank operating within the Watershed.

- Long-term Conservation

Any compensatory mitigation associated with permanent, unavoidable jurisdictional impacts within the Watershed will require legal assurances to ensure the long-term protection of the site's aquatic resources against degradation of integrity at the Watershed scale over time, unless otherwise approved by the Corps and the Department. Legal assurances include, but are not limited to implementing agreements, restrictive covenants, conservation easements, land dedications and implementing agreements. Section 3.6(h)(4) of the SAMP document (Corps, 2008) contains more details on legal assurances as well as requirements for long-term conservation management (including in-perpetuity maintenance, monitoring, identification of conservation manager, estimate of annual costs and long-term funding mechanism).

- Third Party Mitigation Program or Mitigation Bank

An alternative method to satisfy compensatory mitigation requirements is the purchase of credits or payment of fees to a Corps- and Department-approved third-party mitigation program within the Watershed, including a mitigation bank, conservation bank, or for the enhancement, establishment, or restoration of identified offsite aquatic resources. The Department requires that a WSAA (or other SAA) identify the specific location(s) of the compensatory mitigation, so the third-party mitigation program sponsor would be required to link the mitigation actions with the WSAA. Use of an approved third-party mitigation program conducting preservation and enhancement efforts of identified sites would be available to offset temporal loss or instead of contracting with a separate conservation manager or establishing a separate endowment for individual mitigation sites. Additionally, compensatory mitigation requirements for permanent impacts may be offset by contribution to a Corps- and Department-approved third-party mitigation bank that is conducting establishment (creation) and/or restoration efforts in the Watershed.

2.1.3 Strategic Mitigation Plan

The third component of the SAMP/WSAA Process is the Strategic Mitigation Plan which is a tool the Corps and the Department would use in concert with the coordinated, watershed-specific permitting procedures to improve the long-term sustainability of the Watershed's aquatic resources. The fundamental strategy underlying the plan is to guide mitigation efforts (i.e., avoidance, minimization, and compensation of unavoidable impacts) to realize the maximum functional benefit to the aquatic resources within the Watershed. The Strategic Mitigation Plan offers advantages over the more standard piece-meal approach to mitigation. For example, the Corps and the Department's current standard operating procedures do not typically seek to identify potential mitigation opportunities at a watershed scale, nor address long-term management (beyond the usual 5-year maintenance and monitoring period). However, under the SAMP Strategic Mitigation Plan, aquatic resources that provide the greatest function and are often the most difficult to replace in the Watershed would be the focus of avoidance and minimization of impacts. Restoration, creation, and enhancement efforts would be directed to occur in areas with moderate or low integrity resources and in a manner appropriate to the landscape setting. The Strategic Mitigation Plan considers a site's landscape context important, because mitigation sites that provide missing connections between other riparian habitats can increase the overall function of the aquatic resources at the site as well as the function of the adjacent riparian habitats. Additionally, the Strategic Mitigation Plan addresses a need for long-term management of mitigation sites and promotes efforts to increase efficiency.

2.1.3.1 Identification of Restoration Opportunities in the Watershed

The aquatic resource areas with high and moderate habitat integrity would receive a higher level of regulatory oversight under the proposed SAMP changes to permitting procedures within the Watershed. The SAMP analysis also identifies moderately and substantially degraded aquatic resources that do not necessarily trigger increased regulatory protection in their current state. Nevertheless, it is acknowledged that through restoration, such degraded sites would fulfill specific Watershed resource conservation goals. The methodology for identifying Watershed-appropriate riparian ecosystem restoration opportunities is provided by the ERDC's supplemental study to the SAMP, the Riparian Ecosystem Restoration Plan (Smith and Klimas, 2004) included in Appendix B-3.

The restoration plan for the Watershed (Smith and Klimas, 2004) is based upon an evaluation of factors such as the "restoration potential" of specific riparian reaches, a site's geomorphic setting, and the "level of effort" necessary to restore specific stream reaches. Together, restoration potential and level of effort provide a mechanism for estimating the effectiveness of various combinations of restorative actions and for prioritizing the restoration of stream reaches where the greatest functional improvement can be attained for a standardized unit of effort required.

By using an ecosystem function-based methodology (landscape level-functional assessment), the restoration plan identified an array of aquatic resources in various states of cultural alteration as watershed restoration opportunities. In consideration of the reach-specific opportunities and constraints under existing landscape conditions, the restoration plan estimated restoration practicability using units of effort, rather than conducting a traditional cost-benefit analysis. Additionally, the restoration plan

established a set of fundamental site selection and design criteria recommended for identifying potential restoration sites and conducting riparian ecosystem restoration activities within the Watershed.

During the SAMP coordination meetings and in the field investigation, state and federal resource agencies and the SAMP Participating Applicants reiterated the following specific objectives that were applied to produce a nested hierarchy of restoration site opportunities to help prioritize areas for restoration. The criteria, which are consistent with the SAMP Tenets (Section 2.1.1.3), allowed the agencies to strategically prioritize restoration sites for potential implementation as compensatory mitigation sites to attain the greatest functional improvement for a standardized estimation of effort required. The following six criteria provided a mechanism for testing the effectiveness of various combinations of restoration actions at improving the functional integrity of the aquatic resources:

1. Restore connectivity between aquatic resources located in the NCCP Reserve System;
2. Restore reaches within surrounding upland conservation areas;
3. Restore connectivity between high and/or medium integrity resource reaches;
4. Restore reaches within the headwaters;
5. Restore reaches with federally or state-listed species (endangered, threatened, or species of special concern); and
6. Prioritize restoration of reaches with greatest amount of functional lift per level of effort.

A summary of the prioritization process for each criterion is presented in Section 4.2.2 of the Corps SAMP document (Corps, 2008). The results of the prioritization process are presented herein in Figures 2-7 through 2-11 and Tables 2-8 through 2-13. The tables provide a key for the numbers in the figures.

Sites are prioritized according to the ratio of the anticipated benefit to aquatic resources to the level of effort required to restore the site. Sites with the greatest functional boost are ranked higher. Sites are grouped into quartiles to show broad groupings. Sites labeled with priority levels of "c" and "d" would experience less functional benefit from any restoration work than would be expected of sites labeled with priority levels of "a" and "b."

Criterion 1: Restore connectivity between aquatic resources located in the NCCP Reserve System;

Figure 2-7 shows three prospective restoration sites through the proposed Orange County Great Park that meet Criterion 1. Two of the sites could connect aquatic resources of the NCCP. Table 2-8 prioritizes the restoration sites.

Table 2-8. Details of Prospective Restoration Sites Connecting Aquatic Resources Located in the Orange County Central-Coastal NCCP Subregional Reserve System

ID	Priority	Subwatershed	Reach	Restoration Template	Length (m)	Notes
1	a	Borrego Canyon Wash/Agua Chinon Wash	BG-01, BG-02, BG-03	Unearthing	~4000	Great Park Wildlife Corridor
2	b	Agua Chinon Wash/Bee Canyon Wash	AC-01, AC-02	Unearthing	~2500	Great Park Drainage Corridor
3	b	Bee Canyon Wash	BE-02	Unearthing	~2500	Great Park Drainage Corridor

Figure 2-7. Prospective restoration areas connecting aquatic resources in the Orange County Central-Coastal NCCP Subregional Reserve System.

Criterion 2: Restore reaches within surrounding upland conservation areas;

Forty-eight reaches within NCCP Reserve System and other open space areas satisfied this criterion (Figure 2-8) Table 2-9 prioritizes the restoration sites within existing upland conservation areas. Restoration typically involves more than enhancement by planting; it would bring degraded systems into a fully functioning state. Some reaches are within natural upland habitat and others are within non-native habitats such as windrows and orchards. Because of the potentially significant impacts to sensitive upland habitats, restoration efforts should focus on restoring riparian reaches within non-sensitive uplands such as windrows and orchards. In addition, restoration should focus on riparian areas that would produce the most ecological benefit for the level of effort expended. Their status as potential restoration sites would be considered during the review of any application to impact these reaches.

Table 2-9. Details of prospective restoration sites in upland open space areas

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Notes
1	a	Laguna Channel	LG-02-2	Natural	Light	736	Continuous with LG-02-1; adjacent to PA17 development
2	a	Borrego Canyon Wash	BG-12-2	Incised	Light	238	Adjacent to SR-241; continuous with BG-12-1
3	a	Hicks Canyon Wash	HK-03-1	Incised	Light	515	Continuous with HK-03-2
4	a	Hicks Canyon Wash	HK-03-2	Incised	Heavy	235	Continuous with HK-03-1
5	a	Rattlesnake Canyon Wash	RS-09-1	Incised	Light	988	Currently in agricultural production; upstream of PA1; continuous to RS-09-2
6	a	Rattlesnake Canyon Wash	RS-09-2	Incised	Heavy	552	Currently in agricultural production; upstream of PA1; continuous to RS-09-2
7	a	Rattlesnake Canyon Wash	RS-11-1	Incised	Light	343	Currently in agricultural production; upstream of PA1;
8	a	Central Irvine Channel	TB-01-8	Incised	Light	210	Downstream of Siphon Reservoir
9	a	Borrego Canyon Wash	BG-13-2	Natural	Heavy	497	Upstream of SR-241; in alignment of future Portola Parkway extension
10	a	San Joaquin Channel	SJ-03-1	Natural	Light	720	Continuous with SJ-02b-1 and SJ-03-2; adjacent to PA17 development
11	a	San Joaquin Channel	SJ-03-2	Natural	Light	682	Continuous with SJ-03-1; adjacent to PA17 development
12	a	Central Irvine Channel	TB-03-1	Natural	Light	335	Upstream of Siphon Reservoir
13	b	Bee Canyon Wash	BE-15-1	Incised	Light	826	Adjacent to Bowerman Landfill
14	b	Borrego Canyon Wash	BG-10-2	Incised	Light	773	Continuous with BG-11-1 and BG-12-1; identified as UNBWC[3] restoration site
15	b	Bommer Canyon	BM-04-1	Incised	Light	1129	Upstream end impacted by PA27 development
16	b	Bonita Creek	BO-09-1	Incised	Light	996	Downstream of San Joaquin Reservoir; identified as UNBWC[3] restoration site

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Notes
17	b	Laguna Channel	LG-02-1	Incised	Light	451	Continuous with LG-02-2; adjacent to PA17 development
18	b	Marshburn Channel	MH-03b-2	Incised	Light	134	Upstream of SR-241; continuous with MH-03b-3
19	b	Rattlesnake Canyon Wash	RS-07-2	Incised	Heavy	606	Currently in agricultural production; upstream of PA1;
20	b	Sand Canyon Wash	SC-11a-2	Incised	Light	225	Continuous with SC-09-1; adjacent to PA22 development
21	b	Shady Canyon	SH-06-2	Incised	Light	455	Upstream of PA22 development
22	b	Borrego Canyon Wash	BG-14-2	Natural	Heavy	491	Upstream of SR-241; in alignment of future Portola Parkway extension
23	b	Sand Canyon Wash	SC-11b-2	Natural	Light	654	Upstream of SC-11a-2
24	b	San Joaquin Channel	SJ-02b-1	Natural	Light	675	Continuous with SJ-03-1; adjacent to PA17 development
25	c	Agua Chinon Wash	AC-09-2	Incised	Light	512	Upstream of SR-241
26	c	Bommer Canyon	BM-02d-1	Incised	Light	230	Continuous with BM-02c-1 and BM-05-1; between PA22 and PA27
27	c	Hicks Canyon Wash	HK-04a-1	Incised	Light	1641	Continuous with HK-041a-2
28	c	Hicks Canyon Wash	HK-04a-2	Incised	Light	837	Downstream of SR-241; continuous with HK-041a-1
29	c	Marshburn Channel	MH-03b-3	Incised	Light	309	Continuous with MH-03b-2
30	c	Rattlesnake Canyon Wash	RS-05-1	Incised	Light	976	Upstream of Rattlesnake Canyon Reservoir
31	c	Rattlesnake Canyon Wash	RS-08-2	Incised	Light	811	Downstream of SR-241
32	c	Shady Canyon	SH-01-1	Incised	Light	971	Restoration completed because of prior permit requirements
33	c	Shady Canyon	SH-04-1	Incised	Light	357	Upstream of PA22 development
34	c	Borrego Canyon Wash	BG-12-1	Natural	Light	1923	Within El Toro Conservation Lands; continuous with BG-10-2
35	c	Sand Canyon Wash	SC-05-2	Natural	Light	472	Continuous with SC-06-1; just upstream from Sand Canyon Res.
36	c	Sand Canyon Wash	SC-09-1	Natural	Light	245	Continuous with SC-11a-2; adjacent to PA22 development
37	d	Agua Chinon Wash	AC-08-1	Incised	Light	722	Upstream of SR-241; in alignment of future Portola Parkway extension
38	d	Borrego Canyon Wash	BG-04a-1	Incised	Light	808	Affected by alignment of Alton Parkway; identified as UNBWC[3] restoration site
39	d	Borrego Canyon Wash	BG-04b-1	Incised	Light	398	Affected by alignment of Alton Parkway; identified as UNBWC[3] restoration site
40	d	Bommer Canyon	BM-02c-1	Incised	Light	362	Continuous with BM-02d-1; between PA22 and PA27

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Notes
41	d	Bommer Canyon	BM-05-1	Incised	Light	1184	Continuous with BM-02d-1; between PA22 and PA27
42	d	Bonita Creek	BO-08-1	Incised	Light	638	Upstream of compensatory mitigation site; adjacent to SR-73
43	d	Peters Canyon Wash	PC-04-2	Incised	Light	1050	Within Peter's Canyon Regional Park; identified as UNBWC[3] restoration site
44	d	Sand Canyon Wash	SC-06-1	Incised	Heavy	410	Continuous with SC-05-2 and SC-08a-1; adjacent to PA22 development
45	d	Sand Canyon Wash	SC-08a-1	Incised	Light	829	Continuous with SC-06-1 and SC-08b-1; adjacent to PA22 development
46	d	Sand Canyon Wash	SC-08b-1	Incised	Light	516	Continuous with SC-08a-1 and SC-12-1; adjacent to PA22 development
47	d	Sand Canyon Wash	SC-12-1	Incised	Light	586	Continuous with SC-08b-1; adjacent to PA22 development
48	d	Borrego Canyon Wash	BG-11-1	Natural	Light	2383	Continuous with BG-10-2

1 Best possible restoration outcome; "natural" templates allows for full restoration and "incised" templates allows for moderately incised conditions after restoration work is completed

2 Amount of work needed; "light" earthwork requires less than six feet of excavation and "heavy" earthwork requires greater than six feet of excavation

3 Upper Newport Bay Watershed Committee

Figure 2-8. Prospective restoration sites within existing open space.

Criterion 3: Restore connectivity between high and/or medium integrity resource reaches;

This restoration criterion could be achieved at six riparian reaches (Figure 2-9). Table 2-10 prioritizes these reaches. One of the identified riparian reaches was also identified as a restoration site under the second restoration criterion. Site selection prioritized those areas that involve conventional restoration and not rely solely on enhancement activities.

Table 2-10. Details of prospective restoration sites connecting high/medium integrity resource reaches.

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of effort[2]	Length (m)	Notes
1	a	Bee Canyon Wash	BE-03-1	Incised	Light	854	On University of California property; connects to Great Park drainage corridor; identified as UNBWC[3] restoration site
2	a	Borrego Canyon Wash	BG-05b-1	Incised	Light	1193	Directly along alignment of proposed Alton Parkway extension
3	a	Bonita Creek	BO-09-1	Incised	Light	996	Downstream of San Joaquin Reservoir; identified as UNBWC[3] restoration site
4	a	Borrego Canyon Wash	BG-05a-1	Incised	Heavy	1121	Along Baker Ranch proposed development
5	b	Sand Canyon Wash	SC-01-1	Constrained	Light	200	Mason Regional Park; identified as UNBWC[3] restoration site
6	b	Sand Canyon Wash	SC-01-3	Constrained	Light	966	Mason Regional Park; identified as UNBWC[3] restoration site

1 Best possible restoration outcome; the term "incised" templates allows for moderately incised conditions after restoration work is completed and the term 'constrained templates allow for restoration with constraints on either side of the bank

2 Amount of work needed; "light" earthwork requires less than six feet of excavation and "heavy" earthwork requires greater than six feet of excavation

3 Upper Newport Bay Watershed Committee

Figure 2-9. Prospective restoration sites connecting high/medium integrity resource reaches.

Criterion 4: Restore reaches within the headwaters

The remaining headwater local drainage basins in the Watershed are protected as part of the existing NCCP Reserve System and require only enhancement activities. Thus, no restoration opportunities needed to be identified.

Criterion 5: Restore reaches with species of endangered, threatened, or special concern status

Thirty-four drainage basins had at least one observation of sensitive species. Within these drainage basins, 22 reaches were identified as possible restoration sites (Figure 2-10). Some of these sites were also identified under previous objectives. Restoration of these sites should take into account the species present and conduct the work in manner that would not adversely affect the species. Of these 22 reaches, only reach RS-06-1 is located outside aquatic resource integrity areas. The status of the sites as potential restoration sites would be considered during the review of any application to impact these reaches. Table 2-11 lists sites suitable for restoration as identified by this criterion. In contrast to the other restoration criterion, prioritization is only partially based on achieving gains in functional integrity. The purpose of restoring these sites is to provide habitat for sensitive species, which do not always depend on normal measures of riparian ecosystem integrity for success.

Figure 2-10. Prospective restoration sites with species of endangered, threatened, or special concern status.

Table 2-11. Details of prospective restoration sites with endangered or threatened species habitat

	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Species of Interest	Notes
1	Bee Canyon Wash	BE-03-1	Incised	Light	681	Mud nama[3]	On University of California property; connects to Great Park drainage corridor; identified as UNBWC[8] restoration site
2	Bee Canyon Wash	BE-03-3	Incised	Light	335	Mud nama	Downstream of SR-241
3	Rattlesnake Canyon Wash	RS-06-1	Natural	Light	883	LBV/SWFC[4]	Upstream of Rattlesnake Canyon Reservoir
4	Central Irvine Channel	TB-03-1	Natural	Light	807	LBV/SWFC	Upstream of Siphon Reservoir
5	Bee Canyon Wash	BE-04a-1	Incised	Heavy	516	Mud nama	Downstream of former Lambert Reservoir
6	Bonita Creek	BO-09-1	Incised	Light	410	LBV/SWFC	Downstream of San Joaquin Reservoir; identified as UNBWC[8] restoration site
7	Borrego Canyon Wash	BG-03-1	Incised	Light	638	CaGN[5]	Upstream of Irvine Boulevard; identified as UNBWC[3] restoration site
8	San Diego Creek	SD-12a-1	Natural	Light	254	LBV/SWFC, SPT[6]	Downstream of Veeh Reservoir
9	University of California	UC-03-1	Incised	Light	889	Southern tarplant[7]	On UCI property
10	San Diego Creek	SD-11-1	Constrained	Light	996	LBV/SWFC, SPT	Downstream of Veeh Reservoir
11	Sand Canyon Wash	SC-05-2	Natural	Light	1050	LBV/SWFC	Continuous with SC-06-1; just upstream from Sand Canyon Res.
12	Sand Canyon Wash	SC-02-1	Natural	Light	976	LBV/SWFC	Mason Regional Park; within mitigation site
13	Sand Canyon Wash	SC-01-1	Constrained	Light	492	LBV/SWFC	Mason Regional Park; identified as UNBWC[3] restoration site
14	Sand Canyon Wash	SC-01-3	Constrained	Light	206	LBV/SWFC	Mason Regional Park; identified as UNBWC[3] restoration site
15	Rattlesnake Canyon Wash	RS-05-1	Incised	Light	2330	LBV/SWFC	Upstream of Rattlesnake Canyon Reservoir
16	Sand Canyon Wash	SC-06-1	Incised	Heavy	854	LBV/SWFC	Continuous with SC-05-2 and SC-08a-1; adjacent to PA22 development
17	Borrego Canyon Wash	BG-04a-1	Incised	Light	200	CaGN	Upstream of Irvine Boulevard; identified as UNBWC[3] restoration site

	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Species of Interest	Notes
18	Peters Canyon Wash	PC-04-2	Incised	Light	966	LBV/SWFC	In Peter's Canyon Regional Park; identified as UNBWC[3] restoration site
19	Bonita Creek	BO-08-1	Incised	Light	1322	LBV/SWFC	Upstream of compensatory mitigation site; adjacent to SR-73
20	San Diego Creek	SD-10-1a	Natural	Light	472	LBV/SWFC	Along Needlegrass Creek
21	San Diego Creek	SD-10-1b	Natural	Light	840	LBV/SWFC	Along Needlegrass Creek
22	San Diego Creek	SD-10-2	Incised	Light	333	LBV/SWFC	Along Needlegrass Creek

1 Best possible restoration outcome; the term "incised" templates allows for moderately incised conditions after restoration work is completed and "constrained" templates allow for restoration with constraints on either side of the bank.
2 Amount of work needed; "light" earthwork requires less than six feet of excavation and "heavy" earthwork requires greater than six feet of excavation.
3 California Native Plant Society, List 2 species.
4 Least Bell's vireo and southwestern willow flycatcher, both federally and state-listed endangered species.
5 Coastal California gnatcatcher, federally listed threatened species and State of California species of special concern.
6 Southern pond turtle, State of California species of special concern.
7 California Native Plant Society, List 1B species.
8 Upper Newport Bay Watershed Committee.

Criterion 6: Prioritize restoration of reaches with greatest amount of functional lift per level of effort.

Figure 2-11 shows the remaining 15 reaches in terms of the context of the aquatic resource integrity areas, and Table 2-12 classifies the reaches in quartiles with respect to level of functional lift per level of effort. The sites are prioritized with lower numbers representing sites expecting to have the most aquatic resource benefits with respect to the level of effort. Among the four classes, reaches within the two highest quartiles should be prioritized for restoration. Reaches within the other two classes should be restored on a case-by-case basis. Many of the potential restoration sites are in aquatic resource integrity areas where impacts to aquatic resources should be avoided. The remaining sites are on private property or in local government control. Any area whose integrity is improved could be re-evaluated for identification as an aquatic resource integrity area. Some of the restoration sites were not given high priority because of their relative low ranking in the overall prioritization system and the various constraints to be addressed before restoration could occur.

Table 2-12. Details of the Remaining Prospective Restoration Sites

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Notes
1	a	Bonita Creek	BO-16a-3	Natural	Light	190	Underpass of SR-73
2	a	Hicks Canyon Wash	HK-01-3	Incised	Light	776	Partially underground channel within eucalyptus grove
3	a	Bee Canyon Wash	BE-11b-1	Natural	Heavy	666	North of SR-141
4	a	University of California	UC-01-1	Incised	Light	766	Next to University Research Park
5	b	San Diego Creek	SD-13a-1	Incised	Light	2250	Within a eucalyptus grove
6	b	Bommer Canyon	BM-01-3	Incised	Light	431	Within a City of Irvine local park
7	b	Serrano Creek	SE-07-1	Constrained	Light	476	Surrounded by industrial parks
8	b	Bee Canyon Wash	BE-06-3	Incised	Heavy	234	Round Canyon Wash downstream of SR-241 and upstream of BE-06-2
9	c	Laguna Channel	LG-04-1	Incised	Light	1592	Upstream of old Laguna Reservoir
10	c	Serrano Creek	SE-06-1	Constrained	Light	815	Surrounded by a nursery, upstream of SE-05-1
11	c	San Diego Creek	SD-08-1	Incised	Light	475	Next to Irvine Meadows Amphitheater
12	c	Rattlesnake Canyon Wash	RS-07-1	Incised	Light	600	Adjacent to IRWD property
13	d	Bee Canyon Wash	BE-06-2	Incised	Light	206	Round Canyon Wash downstream of SR-241 and BE-06-3
14	d	Serrano Creek	SE-04-1	Incised	Light	603	Upstream of Trabuco Road
15	d	Serrano Creek	SE-05-1	Constrained	Heavy	965	Surrounded by industrial parks and downstream of SE-06-1

[1] Best possible restoration outcome; the term "incised" templates allows for moderately incised conditions after restoration work is completed, and "constrained" templates allow for restoration with constraints on either side of the bank.

[2] Amount of work needed; "light" earthwork requires less than six feet of excavation and "heavy" earthwork requires greater than six feet of excavation.

Figure 2-11. Remaining prospective restoration sites.

Other Considerations

Section 4.4.2 (f) of the SAMP document (Corps, 2008) describes other factors considered in the characterization of restoration activities including the selection of restoration over enhancement. Accordingly, opportunities for site enhancement were identified separately from site restoration opportunities. Figure 2-12 identifies sites for enhancement and Table 2-13 provides details of these sites. The enhancement sites require minimal to no earthmoving in order to improve the site. Lower numbers were assigned to sites expecting the greatest benefits to aquatic resources relative to the level of effort needed to attain the results.

Table 2-13. Details of prospective enhancement sites

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Notes
1	a	Serrano Creek	SE-03-1	Incised	Heavy	37	Upstream of Bake Parkway adjacent to off-line basins
2	a	Bonita Creek	BO-16a-2	Natural	Heavy	418	South of Sage Hill High School; extends connection under SR-73
3	a	Agua Chinon	AC-09-1	Natural	Heavy	536	Upstream of SR-241
4	a	San Diego Creek	SD-15a-1	Incised	Heavy	361	Surrounded by mobile homes in Lake Forest; isolated
5	a	San Diego Creek	SD-15b-2	Incised	Heavy	235	Surrounded by mobile homes in Lake Forest; isolated
6	a	Agua Chinon	AC-06-1	Incised	Heavy	567	Immediately downstream of Agua Chinon Basin
7	a	University of California	UC-02-2	Incised	Light	354	Within UCI Open Space
8	a	Bonita Creek	BO-02-1	Natural	Light	574	Upstream of BO-01-1; downstream of BO-06-1
9	a	Borrego Canyon Wash	BG-05c-1	Constrained	Light	509	Downstream of SR-241; adjacent to Baker Ranch
10	b	Agua Chinon	AC-07-1	Natural	Heavy	550	Within Agua Chinon Basin; enhancement may interfere with flood control work
11	b	Sand Canyon Wash	SC-11a-1	Natural	Light	464	Within Shady Canyon open space; downstream of SC-09-2
12	b	San Diego Creek	SD-09a-1	Natural	Light	1252	Upstream of SD-07-2
13	b	Shady Canyon	SH-03-1	Natural	Heavy	326	Within Shady Canyon open space; downstream of SH-02-1
14	b	Bommer Canyon	BM-01-1	Natural	Heavy	326	Within Turtle Rock community
15	b	Bonita Creek	BO-01-1	Natural	Light	1208	Adjacent to Bonita Creek Park; upstream of confluence with San Diego Creek
16	b	Agua Chinon	AC-03-1	Incised	Heavy	383	Upstream of Irvine Boulevard
17	b	Bonita Creek	BO-04-1	Incised	Heavy	548	Upstream of Ford Road overpass
18	b	Bee Canyon Wash	BE-11a-2	Incised	Heavy	156	Upstream of SR-241; downstream of Bowerman Landfill
19	b	San Diego Creek	SD-07-2	Incised	Heavy	1903	Upstream of I-405; downstream of SD-09a-1

ID	Priority Grouping	Subwatershed	Reach	Restoration Template[1]	Level of Effort[2]	Length (m)	Notes
20	c	Bonita Creek	BO-06-1	Natural	Light	672	Surrounded by Bison Ave., Macarthur Blvd., and SR-73
21	c	Bonita Creek	BO-07-1	Natural	Light	263	Upstream of BO-06-1 and downstream of existing mitigation site
22	c	Agua Chinon	AC-05-1	Incised	Heavy	185	Downstream of Agua Chinon Basin; upstream of military housing
23	c	San Joaquin Channel	SJ-04b-1	Natural	Heavy	551	Within Shady Canyon open space
24	c	Peters Canyon Wash	PC-04-1	Natural	Heavy	1249	Within Peters Canyon Regional Park
25	c	San Diego Creek	SD-12b-1	Natural	Heavy	333	Upstream of Veeh Reservoir and downstream of Laguna Hills Golf Course
26	c	Sand Canyon Wash	SC-04-1	Natural	Heavy	1354	Within Strawberry Farms Golf Course; downstream of SC-04-2
27	c	Serrano Creek	SE-04-2	Natural	Light	1293	Downstream of Dimension Drive
28	c	Borrego Canyon Wash	BG-07-1	Natural	Heavy	1317	Upstream of Portola Parkway; within Whiting Ranch Wilderness Park
29	c	Shady Canyon	SH-02-1	Natural	Heavy	1154	Within Shady Canyon open space; downstream of SH-03-1
30	c	Sand Canyon Wash	SC-04-2	Constrained	Heavy	217	Within Strawberry Farms Golf Course; upstream of SC-04-1
31	c	Sand Canyon Wash	SC-03-1	Natural	Light	766	Within Mason Regional Park mitigation area; downstream of BO-06-1
32	c	Borrego Canyon Wash	BG-15-1	Natural	Light	536	Upstream of SR-241; may be impacted by Portola Parkway Extension
33	c	Borrego Canyon Wash	BG-16-1	Natural	Light	317	Upstream of SR-241; may be impacted by Portola Parkway Extension
34	c	Sand Canyon Wash	SC-09-2	Natural	Light	1801	Within Shady Canyon Open Space; upstream of SC-11a-1
35	c	Serrano Creek	SE-08a-1	Incised	Heavy	1298	Upstream of Portola Parkway; within Whiting Ranch Wilderness Park
36	c	Serrano Creek	SE-03-2	Incised	Heavy	1840	Within Serrano Creek Community Park and undergoing revegetation

[1] Best possible restoration outcome; the term "incised" templates allows for moderately incised conditions after restoration work is completed, and "constrained" templates allow for restoration with constraints on either side of the bank.

[2] Amount of work needed; "light" earthwork requires less than six feet of excavation and "heavy" earthwork requires greater than six feet of excavation.

Figure 2-12. Prospective Enhancement Sites.

Caveats of Restoration Prioritization

The hierarchy of identified restoration priorities is intended to inform decision-making processes; it is not proposed as a rigid structure whereby choices in restoration sites are pre-set with little room for deviation. Although the preference would be to implement restoration sites in order of prioritization, several factors would influence the final selection of any particular site for restoration including restoration site availability, community acceptability of the restoration work, and the appropriateness of the type of restoration work in relation to the type of impact for which compensatory mitigation may be required. To proceed with restoration of any identified site, detailed planning is needed beyond the general design criteria outlined in the restoration plan (Smith, Klimas, 2004) used in the prioritization process. Among the site specific parameters that would be determined through additional evaluation are current conditions of a potential site, appropriate extent of earthwork, development of planting plans, cost of implementation and monitoring protocols.

The Corps and the Department do not intend that the restoration opportunities identified herein would preclude implementation of potential restoration projects identified by the Corps Watershed Feasibility Study (Corps, 2005) or any other restoration opportunities identified by other stakeholders. Also, the identification of opportunities in the context of the SAMP would not mandate nor guarantee that any particular site would be restored or enhanced. Full implementation of the Strategic Mitigation Plan (e.g. avoidance, minimization and compensation of unavoidable impacts following a watershed approach with long-term management) would require the participation of multiple stakeholders in the Watershed. The Corps and the Department would continue to provide guidance and direction and work within the parameters of their authorities. Coordination with other agencies and stakeholders would be instrumental in implementing the Strategic Mitigation Plan. Therefore, the Corps and the Department have proposed a Mitigation Coordination Program which is discussed in Section 2.1.4.

2.1.3.2 Long-Term Conservation of Aquatic Resource Integrity Areas

The Corps and the Department believe that certain land management practices are needed to prevent substantial degradation of aquatic resource integrity. They also recognize that a concerted effort on the part of all the Watershed's land managers is required to protect the hydrologic, water quality, and habitat integrity and to prevent degradation of the Watershed's remaining higher value aquatic resources (i.e. aquatic resources located within identified aquatic resource integrity areas).

The Corps and the Department intend to work within the bounds of their respective authorities, which extend to the regulation of certain activities that affect their jurisdictions and to the prohibition of activities that adversely affect the conservation values of legally protected mitigation sites, and in an advisory capacity. Consequently, the Corps and the Department have prepared a suite of guidelines and measures for aquatic resource management (Table 2-14). In the case of compensatory mitigation sites, the Corps and the Department would specifically include such measures as requirements in permit special conditions or would require such measures be addressed with legal protections over the land (e.g., a conservation easement). However, beyond the regulatory role, the Corps and the Department offer these as recommendations to the regulated community as additional indication of the parameters by which the Corps and the Department will evaluate future regulated activities within the aquatic resource integrity areas.

Many of the policy recommendations described herein may already be planned or are in operation as a result of existing programs (e.g., state or regional water quality program requirements), while other land management practices would require a greater level of specificity and further analysis prior to implementation. Any latent conflicts with other Watershed resource conservation programs are unintentional and would require further coordination and evaluation. The management measures listed in Table 2-14 are arranged in alphabetical order, not hierarchical, and represent a comprehensive approach to retain and restore the integrity of aquatic resources and to prevent further degradation of higher value aquatic resources. Appendix 4 of the Corps SAMP document (Corps, 2008) contains additional information on land uses and their effects on aquatic resources.

Table 2-14. Recommendations for long-term management of compensatory mitigation sites and protection of aquatic resource integrity areas.

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
Adaptive Management Program– The Corps and the Department believe an adaptive management program would be most suitable to address over time the changing needs of the aquatic resources within the integrity areas. Depending on the sites, much of the baseline data would be available for use; however, some biotic surveys may be required. Tasks and costs associated with habitat maintenance, water management, general maintenance, reporting/documentation, operations, and periodic site construction (e.g. fencing and road repair) are anticipated. Any creation or restoration activities would require additional tasks and costs beyond those for general adaptive management and would likely be conducted by the landowners themselves.	Adaptive management plans for the long-term conservation of mitigation sites should include measures to achieve the following goals: maintain and restore the hydrologic, water quality, and habitat integrity of watershed; maintain, restore, and/or enhance native riparian ecosystems and other aquatic resources; protect and support biodiversity; protect and restore sensitive species and their habitats; and allow natural successional stages to occur.	Adaptive management of all the aquatic resources in the integrity areas would support the conservation goals of the SAMP. However, to implement such a program would require expenditure of capital costs for initial tasks as well as ongoing tasks and their associated costs. Economy of scale suggests that sharing costs amongst land owners/managers for a coordinated program would minimize duplication of efforts and minimize costs to individual land owners/managers. See Mitigation Coordination Program discussion (Section 2.1.4).
Agricultural Activities – Unmanaged livestock grazing or other intensive agricultural activities may impair or interfere with the conservation values and the natural condition of aquatic resources.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, grazing or agricultural activities would not be authorized within the aquatic resource or buffer zone, unless approved as part of the conservation management program.	Management strategies to minimize direct and indirect impacts of existing grazing or other agricultural activities on aquatic resources should be evaluated and implemented within the aquatic resource integrity areas.
Buffers – Landscape context of aquatic resource is an important influence on the condition of that resource. Buffers are terrestrial habitats that extend beyond the edge of the wetland and/or riparian habitat.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, buffers should be included to protect the aquatic resources from anthropogenic stressors. Buffers should contain adequate width to reduce the negative interactions between adjacent land uses and ecological functions; buffers may	Management strategies to minimize direct and indirect impacts of anthropogenic activities should include buffers vegetated with native species to the extent practicable.

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
	range from 10m – 100m, depending on site-specific situations; and remain free of activities and pollutants that reduce the buffer's ecological functions. Note: Non-aquatic resources or buffers can be used as credits towards fulfilling compensatory mitigation acreage when those resources are deemed essential to maintaining the ecological viability of adjoining aquatic resources.	
Commercial, Industrial Uses – Commercial and industrial land uses can directly and indirectly impact the natural condition of aquatic resources.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, new commercial or industrial uses would not be authorized.	Undertaking new commercial or industrial uses within the aquatic resource integrity areas may impair or interfere with the conservation values and the natural condition of the aquatic resources. Activities should be planned in a manner to avoid and minimize permanent impacts to aquatic resources.
Construction – Construction activities within or adjacent to aquatic resources can directly and indirectly impact the natural condition of aquatic resources. Best management practices can reduce or eliminate adverse effects.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, construction activities or uses would not be authorized, except as minimally necessary to maintain or repair existing structures.	Construction, reconstruction, or placement of any building or other improvement within the aquatic resource integrity areas may impair or interfere with the conservation values and the natural condition of the aquatic resources. Activities should be planned to avoid and minimize permanent impacts to aquatic resources.
Flood Management and Erosion Control – Under baseline conditions, some aquatic resources are managed to provide flood management or other functions and require routine maintenance activities.	Maintenance activities to preserve the flood management function or to control erosion of watercourses that are mitigation sites shall be performed in a manner to preserve the conservation values of the site. Any removal of sediment and associated vegetation from the aquatic resources shall be minimized and shall occur only to the extent that these activities have been included in the maintenance baseline for the watercourse to restore the facility to its design capacity.	Maintenance activities to preserve the flood management function or to control erosion of watercourses should be performed in a manner to preserve the conservation values of the aquatic resource integrity areas. Therefore, any removal of sediment and associated vegetation from the aquatic resources should be minimized and should occur only to the extent that these activities have been included in the maintenance baseline for the watercourse to restore the facility to its design capacity.
Grading – Grading activities within or adjacent to aquatic resources can directly and indirectly impact the natural condition	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas,	Permanent alteration of the general topography through grading activities, including but

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
of aquatic resources. Best management practices can reduce or eliminate any permanent adverse impact.	grading activities, except for ecosystem restoration activities would not be authorized.	not limited to building of roads and new flood management work, and excepting ecosystem restoration activities, may impair or interfere with the conservation values and the natural condition of the aquatic resources within aquatic resource integrity areas. Activities should be planned to avoid and minimize permanent impacts to aquatic resources.
Habitat Restoration/Enhancement Activities – Aquatic resource restoration, enhancement, and creation activities within the aquatic resource integrity areas should be conducted in a manner consistent with the design criteria established by the Watershed Restoration Plan (Smith and Klimas, 2004) and as consistent with the SAMP Strategic Mitigation Plan to provide self-sustaining sites for increased integrity and function of aquatic resources.	The permittee shall retain the right to perform the restoration of native plant communities, including the right to plant trees and shrubs of the same type as currently existing on the mitigation site, so long as such activities do not harm the habitat types identified in the permit/agreement. For purposes of preventing erosion and reestablishing native vegetation, the permittee shall retain the right to revegetate areas that may be damaged by the permitted activities, naturally occurring events or by the acts of persons wrongfully damaging the natural condition of the mitigation site, including preserved areas within the aquatic resource integrity areas.	A mitigation coordination program would facilitate these efforts within the aquatic resource integrity areas. See Mitigation Coordination Program discussion (Section 2.1.4).
Integrated Pest Management (IPM)– IPMs combine various techniques for the prevention of pests and pest-related damage in order to minimize the adverse affects to the non-target organisms and the environment as well as to reduce adverse risks to human health. Existing models for IPM are available for various types of land uses, including but not limited to golf courses, open spaces, and campus-type facilities *(see also Vector Control; Invasive, Exotic Species Control).*	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, application of pesticides and herbicides is typically considered a prohibited activity *(see also Vector Control; Invasive, Exotic Species Control).*	Within the aquatic resource integrity areas, pesticide use for the control of pests should be the last option, but would be permissible. Land owners/ managers are encouraged to develop and implement ecosystem-based strategies to prevent pests and pest-related damage. In consideration of an adaptive management framework, it may be prudent for land owners/managers to incorporate IPM into a mitigation coordination program to better provide long-term protection of high value aquatic resources (*see also Vector Control; Invasive, Exotic Species Control*).
Invasive, Exotic Species Control – A list of target species of invasive, exotic vegetation	At compensatory mitigation sites, including preserved areas within the	To avoid redundancy and improve program efficiency, any

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
is provided (Table 5-1 of Corps SAMP document). Only herbicides and associated surfactants approved by EPA for use in wetlands and with no/low toxicity to aquatic organisms may be used in aquatic resources.	aquatic resource integrity areas, the planting, introduction or deliberate dispersal of invasive, exotic plant or animal species is prohibited. Also, see discussion for non-mitigation sites.	new efforts for the control of invasive, exotic vegetation, cowbird trapping, bullfrog and African clawed frog control measures within the aquatic resource integrity areas should be coordinated and to the extent practicable with other land owners/managers with ongoing control programs within the Watershed, in both riparian and terrestrial habitats. A mitigation coordination program would facilitate these efforts. See Mitigation Coordination Program discussion (Section 2.1.4).
Irrigation, Water Influences - Unseasonable watering, manipulating, impounding or altering any natural watercourse, body of water or water circulation and activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or sub-surface waters may result in substantial adverse impacts to aquatic resources.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, such activities or uses would not be authorized, except as minimally necessary for the establishment of restored or created native habitats in restoration areas.	Land owners/managers should limit alterations to the natural hydrologic regime within the aquatic resource integrity areas to prevent impairment of the conservation values and the natural condition of the aquatic resources.
Long-term Legal Protection of Conservation Values - The most effective way to provide long-term protection of sensitive resources over time is to confer legal assurances on the lands. Legal assurances refer to implementing agreements, restrictive covenants, conservation easements, or land dedications and are for the purpose of protecting the conservation values of sensitive resources in perpetuity.	Any compensatory mitigation, including preserved sites, associated with projects evaluated under the SAMP regulatory program would require legal assurances to ensure the long-term increased benefits at the watershed scale. See Mitigation Framework (Section 2.1.2.6 (h)(4).	Land owners/managers with control over aquatic resource integrity areas should consider mechanisms for ensuring long-term protections. A Mitigation Coordination Program could facilitate these efforts. See Mitigation Coordination Program discussion (Section 2.1.4).
Long-Term Monitoring and Maintenance – A monitoring strategy that addresses both surveillance and post-restoration/ mitigation type monitoring needs should be included as part of any adaptive management program. Associated with the monitoring program would be certain success criteria relevant to the conservation program in general as well as project- or site-specific criteria for compensatory mitigation or restoration projects.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, the permittee shall be responsible for the ongoing maintenance/repair of the mitigation site. See Mitigation Framework (Section 2.1.2.6 (h)(4).	To avoid redundancy and improve program efficiency, any new efforts for long-term maintenance and monitoring of sites within the aquatic resource integrity areas should be coordinated, to the extent practicable, with other land owners/managers with ongoing control programs within the Watershed, in both riparian and terrestrial habitats. A Mitigation Coordination Program would facilitate these efforts. See Mitigation Coordination Program discussion (Section 2.1.4).

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
Native Riparian Habitat– Removing, destroying, or cutting of native riparian trees, shrubs or other vegetation may impair or interfere with the conservation values and the natural condition of aquatic resources.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, removal of native riparian habitat, except as required by law for (1) fire breaks, (2) maintenance of existing foot trails or roads, (3) flood or erosion control as provided within a conservation easement, and (4) prevention or treatment of disease would not be authorized.	Land owners/managers should take care to avoid and limit activities that would result in the removal or destruction of native riparian vegetation within the aquatic resource integrity areas.
Natural Resource Extraction – Filling, dumping, excavating, draining, dredging, mining, drilling, removing or exploring for or extraction of minerals, loam, gravel, soil, rock, sand or other material on or below the surface may impair or interfere with the conservation values and the natural condition of aquatic resources.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, natural resource extraction would be prohibited.	Land owners/managers should avoid or limit natural resource extraction activities within the aquatic resource integrity areas.
New Road Crossings – Certain types of road crossings may result in substantial adverse impacts to aquatic resources of high value. Bridges and arched culverts with natural bottoms would be considered among the alternative minimization measures available to project proponents.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, the alteration of the general topography of the site, including but not limited to building of new roads would be prohibited.	Land owners/managers should undertake reasonable measures to minimize adverse impacts to aquatic resources within the integrity areas from new or reconstructed road crossings. Project proponents should expect to consider alternative routes, crossings, and types of crossings, as they will be thoroughly analyzed by the Corps and Department.
Public Access and Recreational Activities – Unless mitigation measures are undertaken to manage active recreation, including, but not limited to, horseback riding, biking, hunting, or fishing, such activities may impair or interfere with the conservation values and the natural condition of aquatic resources. For example, frequent off-trail incursions into the streambed or native riparian habitat and other disturbances in sensitive areas may result in adverse impacts to the aquatic resources or may result in disturbances to riparian species of concern during the breeding seasons.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, recreation including, but not limited to, horseback riding, biking, [and hunting, or fishing] may be prohibited or measures may be required to minimize disturbance.	Any proposals for new recreational facilities within the aquatic resource integrity areas should consider these issues and may wish to include design features, public education component, and access control measures to reduce direct and indirect effects to sensitive resources. Also, see this topic under Appendix 4 concerning existing use areas.
Refuse, Trash – The deposition or accumulation of soil, trash, ashes, refuse, waste, bio-solids, or any other material may impair the conservation values of aquatic resources.	As part of a monitoring and maintenance program, land owners/managers shall be required to undertake all reasonable actions to prevent the deposition or accumulation of soil, trash, ashes, refuse, waste, bio-solids, or any	Land managers/owners may have their own trash removal regime. To avoid redundancy and improve program efficiency, refuse and trash control efforts as part of a long-term maintenance and monitoring of sites within the

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
	other material within mitigation sites.	aquatic resource integrity areas could be coordinated with other land owners/managers with ongoing control programs within the Watershed, in both riparian and terrestrial habitats. A mitigation coordination program would facilitate these efforts. See Mitigation Coordination Program discussion (Section 2.1.4).
Signage – The installation and maintenance of informative signage and other notification features saying "Natural Area Open Space," "Protected Natural Area," or similar descriptions may be used to inform persons of the nature and restrictions on the access or use of sensitive resources.	The permittee may be required to post and maintain informative signage in or adjacent to a compensatory mitigation site, including preserved areas within the aquatic resource integrity areas. The signage shall be maintained in-perpetuity.	To avoid redundancy and improve program efficiency, the posting and maintenance of informative signage within the aquatic resource integrity areas could be coordinated with other land owners/managers with ongoing access control programs within the Watershed, in both riparian and terrestrial habitats. A mitigation coordination program would facilitate these efforts. See Mitigation Coordination Program discussion (Section 2.1.4).
Vehicular Access – Inappropriate vehicle use (e.g., off-road vehicles) can result in direct and indirect impacts to the conservation values of aquatic resources. Any exclusion fencing used to restrict vehicular access should be installed in a manner that retains or facilitates wildlife movement between contiguous areas within the aquatic resource integrity areas.	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, the use of off-road vehicles and use of any other motorized vehicles except on existing roadways and as necessary to restore native plant communities consistent would constitute a prohibited activity.	Land owners/managers should undertake all reasonable actions to preclude the use of off-road vehicles and of any other motorized vehicles, except on existing roadways, and as necessary to restore native plant communities.
Wildlife Movement – Riparian corridors provide foraging, cover, and nesting/breeding habitat for fish and wildlife, and are conduits for many species, including aquatic, riparian, and semi-aquatic or terrestrial species.	Since restoration opportunities prioritized for compensatory mitigation in the SAMP Strategic Mitigation Plan considered wildlife movement, project proponents should consult the plan. An objective is to augment regional aquatic and terrestrial habitat conservation efforts to maintain and restore wildlife movement between existing NCCP Reserve sub-areas.	Activities in the aquatic resource integrity areas should not conflict with, but rather augment regional aquatic and terrestrial habitat conservation efforts to maintain and restore wildlife movement between existing reserve areas such as the Central-Coastal NCCP Subregional Reserve System, the proposed City of Irvine Great Park Wildlife Corridor, and the Laguna Coast Wilderness Park.
Vector Control – The Corps and the Department regard the need for protection of public health against vector-borne diseases as an important consideration. A vector is any insect or arthropod, rodent, or other animal capable of harboring or transmitting the causative agents of disease	At compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, application of pesticides, biocides, rodentcides, and herbicides (except for weed abatement) would constitute a prohibited activity.	Implementation of the SAMP Strategic Mitigation Plan should minimize mosquito populations in the aquatic resource integrity areas by reducing breeding sites through restoration and enhancement activities to improve

Management Aspect	Applicability for Mitigation Sites	Applicability for Aquatic Resource Integrity Areas in General (Non-Mitigation)
(i.e., viruses, bacteria, parasites) to humans. In the context of aquatic resources, mosquitoes (*Culex*, sp.) and mosquito-borne diseases are of particular relevance. The Corps and the Department acknowledge that specific mosquito control programs in the aquatic resource integrity areas may be required to reduce localized mosquito populations and minimize the risk of disease transmission to humans via the mosquito. The following are the Corps and the Department's assumptions with regard to a vector control activities at mitigation sites or other aquatic resources in the integrity areas: (1) mosquitoes provide a food source for many birds, bats, amphibians, and fish species resident to riparian and wetland systems and complete elimination of mosquitoes in riparian areas may upset the food web; (2) healthy wetlands, with adequate water circulation to avoid stagnant conditions, along with the presence of mosquito-eating predators, including mosquito-eating beetles, backswimmers, water striders, dragonfly larvae, etc. should provide adequate conditions to prevent infestation; and (3) the wide availability of proven biological control methods renders the use of pesticides and insecticides within aquatic resources, and more invasive control methods, avoidable.	Filling or draining aquatic resources at compensatory mitigation sites, including preserved areas within the aquatic resource integrity areas, for the purposes of vector control would constitute a prohibited activity. Management efforts should remedy cause such as poor circulation or should employ accepted biological control methods.	the integrity and function of wetlands and riparian areas. The use of pesticides and insecticides in the aquatic resource integrity areas should be avoided and replaced with an IPM program (see Integrated Pest Management above). Vector control activities can be coordinated with the County of Orange's Vector Control District and other land owners/managers in the aquatic resource integrity areas to help avoid duplicative or incompatible efforts.

2.1.3.3 Implementation of Strategic Mitigation Plan

The primary means of implementing the Strategic Mitigation Plan would be through adherence to the SAMP mitigation framework. Management of the aquatic resource integrity areas to promote the maintenance and restoration of aquatic resource integrity would be supported by the regulatory process and is one of the principal benefits of the SAMP.

Compensatory mitigation (e.g. in the form(s) of preservation, creation, restoration, and enhancement activities) would be required to offset permanent and temporal impacts to aquatic resources. Generally, compensatory mitigation would occur onsite and/or within the aquatic resource integrity areas. Although not preferred, the Corps and the Department could consider on a case-by-case basis the use of sites outside the aquatic resource integrity areas for compensatory mitigation. In general, implementation of restoration projects identified in the SAMP or in the riparian ecosystem restoration plan (Smith and Klimas, 2004) would be weighted as providing greater value for the Watershed than an alternative site located outside the aquatic resource integrity areas, or a site that is not identified in the restoration plan.

Furthermore, to facilitate broader scale conservation efforts through compensatory mitigation, the Corps and the Department anticipate the establishment of a mitigation bank and/or an ILF (Corps only) mitigation program. Such efforts would assist in addressing the long-term management needs of mitigation lands. A possible option would be to coordinate with the City and/or the Great Park Corporation, who are considering whether to establish an approved mitigation banking instrument and/or ILF program at the Great Park site. However, at the time of this publication, further investigations and discussions were deemed necessary to determine the appropriateness of establishing mitigation banking agreements and/or other third party mitigation programs with the Corps and the Departments (see further discussion in Section 2.1.4, Mitigation Coordination Program).

As part of the SAMP, the Strategic Mitigation Plan, along with identification of the aquatic resource integrity areas, has been designed in cooperation with, and to the satisfaction of, the Corps and the Department to avoid any apparent conflicts with the other ecosystem reserve and restoration efforts, including the NCCP. Furthermore, the proposed riparian corridor(s) of the Orange County Great Park were designed in coordination with, and to the satisfaction of, the Corps and the Department.

2.1.4 Mitigation Coordination Program

2.1.4.1 Specifications of Program

The Mitigation Coordination Program is intended to guide implementation of the Strategic Mitigation Plan and to support long-term restoration and conservation goals and management strategies for the Watershed's aquatic resource integrity areas identified through the SAMP analysis. Moreover, the Mitigation Coordination Program is a tool for implementing the restoration or enhancement of degraded aquatic resources, which upon restoration should receive the benefits of coordinated long-term monitoring and maintenance activities.

The program is organized into two tiers and summarized below. Details are provided in Section 5.1.1 and 5.1.2 of the Corps SAMP document (Corps, 2008).

Tier One: Priority Activities:

- Coordinate Aquatic Resource Restoration Efforts – to ensure degraded sites are restored or enhanced so that functional gains to the Watershed are realized. This could be done via creation of a protocol acceptable to landowners/managers whereby they would allow restoration or enhancement efforts to occur on their lands.

- Coordinate Long-term Adaptive Management, Monitoring and Maintenance Efforts – to manage aquatic resource integrity areas so degradation of natural or near natural aquatic resource areas over time does not occur, and to manage compensatory mitigation sites beyond the short-term five year monitoring and maintenance period. This could entail the establishment of a Corps- and Department-approved mitigation bank and/or in-lieu fee mitigation program (Corps only) to undertake long-term management.
- Implement Strategic Mitigation Plan – to guide implementation of the SAMP Strategic Mitigation Plan and update the plan based on implementation of restoration activities and monitoring data so that it is reflective of changes in the ecosystem over time.
- Solicit Sponsor(s) of Third Party Mitigation Program and/or Mitigation Bank – to conduct and oversee long-term management activities within the aquatic resource integrity areas and take other actions to help implement the Strategic Mitigation Plan, under a formal agreement with the Corps and Department. Funds would be generated from future project proponents/permittees that would have the option to pay into a third-party mitigation program or bank as well as from appropriate grant sources. The Department requires that a SAA through the WSAA Process identify the specific location(s) of the compensatory mitigation, so the third-party mitigation program sponsor would be required to link the mitigation actions with the project SAA.

Tier Two: Secondary Activities

- Work with Watershed Stakeholder Groups - to integrate with existing watershed management and aquatic resource conservation efforts in the Watershed so that the Corps and Department's regulatory functions (via the SAMP/WSAA Process mitigation and coordination program) can support more comprehensive management efforts that are ongoing and/or planned for the Watershed by other agencies and groups (e.g. Corps Planning Division, RWQCB, County of Orange, Nature Reserve of Orange County (NROC), California Wetlands Recovery Project, Southern California Coastal Water Research Project, City of Irvine, etc).
- Facilitate the Sharing and Use amongst the Watershed Managers of Scientific, Technical Data Available on the Aquatic Environment – to enable a more accurate adaptive management process as well as reduce program costs, and facilitate a more collaborative relationship among stakeholders.
- Facilitate Aquatic Ecosystem Restoration and Enhancement Activities Unrelated to Regulatory Programs or Compensatory Mitigation – by providing information (such as for example, site design criteria for riparian ecosystem restoration), to groups and land owners/managers interested in conducting non-mitigation aquatic resource enhancement and restoration projects within aquatic resource integrity areas.

2.1.4.2 Strategy for Coordination Identified

The recommended strategy for establishing a Mitigation Coordination Program would build upon existing alliances and suggest mechanisms to address the specific long-term management needs of aquatic resources. Alternative models considered are identified and discussed in terms of the broader Watershed context (Appendices 5 and 6 of the Corps SAMP document (2008)). This strategy recognizes that a cooperative effort on the part of the Watershed stakeholders would be required to ensure long-term

conservation of high value resources since watershed-wide aquatic resource conservation extends well beyond the scope or jurisdiction of one agency or land owner/manager.

Several open space and reserve programs already exist in the Watershed, including the NCCP Reserve, a 37,380-acre terrestrial habitat reserve system, which is administered by NROC. The Irvine Ranch wildlands and parks (formerly the Irvine Ranch Land Reserve), overseen by the Irvine Ranch Conservancy, the City of Irvine's Open Space Nature Preserve, and other city open space areas serve recreational and conservation purposes. Generally, the focus of these existing programs has been recreation and the protection and conservation of upland terrestrial natural resources. In contrast, the focus and purpose for this new Mitigation Coordination Program is to bring attention to and coordinate management to the particular conservation needs of aquatic resources, primarily the riparian ecosystems in the Watershed.

The Corps conceptual model for a management structure entails the following:

- Coordination Committee; and
- Mitigation Coordination Program Administrator, Mitigation Bank or other Third-Party Mitigation Program Sponsor

Section 5.2 of the Corps SAMP document (Corp, 2008) contains specific details on potential entities and roles/responsibilities for the Coordination Committee and Program Administrator/Sponsor.

2.1.5 SAMP Implementation

This section summarizes the next steps to finalizing the SAMP as well as what is needed to ensure successful implementation of the SAMP elements. Also included in this section is a discussion about the duration and applicability of the SAMP.

2.1.5.1 Finalizing the SAMP

With the publication of this Draft Program EIS/EIR and the Corps SAMP document, the Department has included draft template SAAs and the SAA Templates Master Conditions List for review and comment (Appendix D). Similarly, concurrent with the publication of the Draft Program EIS/EIR, the Corps included a Special Public Notice announcing its intentions to revoke the use of selected NWPs in the Watershed and to establish procedures for issuing LOPs to authorize activities that meet the terms and conditions of the LOP procedures, regardless of whether the proponent participated in the SAMP formulation (Appendix C-1).

As described in Section 2.1.2.3, the LOP procedures would entail requirements for the preparation of a tiered environmental assessment and public interest review. Since categories of activities eligible for LOP procedures are evaluated in this Program EIS/EIR, the Corps would tier subsequent project-specific environmental review from this EIS/EIR, in accordance with 40 CFR 1502.20 of CEQ's NEPA regulations. Consequently, the environmental impact assessment for future project-specific LOPs would be shortened to focus issues for environmental review and decision and eliminate repetitiveness.

Additionally, the Corps included a Special Public Notice announcing the proposal to establish the RGP for routine maintenance activities in jurisdictional areas outside the aquatic resource integrity areas

(Appendix C-2). As described in Section 2.1.2.3, this RGP would cover the future maintenance projects for project proponents whose activities meet the terms and conditions of the RGP, regardless of whether the proponent participated in formulation of the SAMP.

Following the finalization of this Program EIS/EIR and adoption of the SAMP, the Corps would issue its ROD. Then, the Corps would formally establish its SAMP permitting (revocation of selected NWPs, establishment of LOP procedures and an RGP) and mitigation framework. Permits could be issued under the SAMP permitting process, including the mitigation framework. The Corps would tier its project-specific environmental review for any future permit actions from this Program EIS/EIR, in accordance with 40 CFR 1502.20 of CEQ's NEPA regulations.

Similarly, the Department would verify that future projects meet the conditions of the WSAA Process, including CEQA requirements, and enter into a SAA (or MSAA), tiered off of this Program EIS/EIR, with project proponents.

Permits and special conditions and any subsequent SAA (or MSAA) and its conditions would require the permittee/project proponent to implement mitigation requirements per the SAMP mitigation framework, which may include a combination of avoidance/preservation, restoration, creation, enhancement, and/or acreage equivalent fees to an approved third-party mitigation program for long-term adaptive management. The permit special conditions would reference the SAMP and this Program EIS/EIR for the SAMP/WSAA Process. In this way, the permittees would help implement the long-term aquatic resource conservation and management program. The agencies anticipate a phased implementation of the Mitigation Coordination Program, including the formation of a Coordination Committee by the SAMP participating entities (i.e. resource agencies, private and public land owners and managers).

In the interim period before the SAMP is finalized, project applications will be evaluated in terms of the SAMP Analytical Framework. Moreover, the proposed SAMP mitigation policies and Strategic Mitigation Plan will inform the Corps and the Department's decisionmaking processes within the Watershed.

2.1.5.2 Term of the SAMP and Permitting Procedures

Since the SAMP is a plan, it has no expiration date per se. Similarly, the elements of the SAMP, including the regulatory procedures, have no expiration date.

In contrast, different regulatory authorizations may have expiration dates. For instance, under Corps regulations (33 CFR Part 325), the Corps may authorize an RGP for a five-year term with the option to renew, but an individual project authorized for work by the RGP would have an approved maintenance window with an expiration date ranging from a few months to less than two years, depending on the project. The LOP procedures would be established for an indefinite period, and until subsequently modified or replaced. However, a specific project authorized by an LOP would be granted a reasonable period of time for construction that would be determined on a project basis, as appropriate to the scope and nature of the particular authorized activity and in accordance to Corps regulations, but generally would be two years. Since a jurisdictional determination verified by the Corps is valid for up to five years unless new information warrants revision of the determination before the expiration date, any long-

term LOPs with durations of greater than five years may include additional notification and verification requirements.

Similar to the LOP procedures, the Department's WSAA Process has no expiration date. The Watershed template SAAs and the SAA Templates Master Conditions List would be reviewed periodically to ensure consistency with the streambed alteration agreement program. Individual SAAs would have expiration dates determined on a project basis, as appropriate to the scope and nature of the particular authorized activity, but generally an SAA expiration date would correspond to that of the Corps authorization (i.e., RGP, LOP, or SIP).

The Corps and Department will retain the right to revoke, suspend or terminate a Corps LOP or RGP or Department SAA, respectively, held by one or more permittee in the event of a violation of the terms and conditions of the Corps LOP or RGP or Department WSAA. Neither the Corps nor the Department shall initiate an action to revoke any Corps LOP or RGP or Department SAA without first pursuing applicable processes as specified in the Corps or the Department's regulations. Any action to suspend activities or privileges under a Corps LOP or RGP, or a Department SAA, to the maximum extent consistent with the purposes of the suspension or revocation, shall be limited to address the discrete action or inaction underlying the suspension or revocation, in order to minimize any impacts on the responsible party and other parties.

2.1.6 Beneficial Effects of the Proposed SAMP Permitting/WSAA Process in comparison to the Current Permitting/Agreement Process

2.1.6.1 Streamlined Process, More Predictability, More Effective Protection

Corps Permit Process

The proposed SAMP permitting program would result in new watershed-specific RGP and LOP procedures (and some remaining NWPs). These new permit mechanisms would be available for regulated activities that are consistent with the SAMP Analytical Framework and intended to minimize delays for activities with minimal impacts. Project applicants may utilize the new SAMP permit procedures if they can meet the requirements set forth in the proposed permits as discussed in Section 2.1.2.3 including the impact acreage thresholds and the various permit conditions. The option to utilize a SIP and standard streambed alteration agreement would still remain as needed for certain projects that do not meet the eligibility requirements of the RGP or LOP.

The watershed-based alternatives analysis and compliance with the Section 404(b)(1) Guidelines will be completed as part of the proposed SAMP. Eligible regulated activities (primarily maintenance activities) that would result in temporary, minor impacts (0.5 acres of waters of the U.S. of which only 0.1 acre may be vegetated with native riparian and/or wetland vegetation) and mitigated per the mitigation requirements of the SAMP mitigation framework could qualify for the RGP. LOP procedures would apply for regulated activities in non aquatic-resource integrity areas, (no specific impact acreage thresholds) and in aquatic resource integrity areas on a conditional basis for temporary impacts (for the purpose of maintaining established structures) and permanent impacts (up to 0.1 acres of waters of the U.S.). The LOP procedures would also be available for regulated discharges in the five major stream systems (which are aquatic resource integrity areas) in accordance with LOP criteria.

The extent of development in the Watershed will be reduced after the remaining City of Irvine Planning Areas are built-out. Thus, most future proposals for land development projects are not expected to involve large acreage areas or high quality resources. Much of the high quality aquatic resources have been avoided as a result of the early SAMP planning process. Examples of minor, low-impact projects still likely to occur in the future are: flood control-related activities such as repair of bank stabilization features and channel/basin dredging after flood events; minor utility maintenance projects; and restoration/enhancement activities that generally conform to the RGP. None of these projects would involve the permanent removal of any aquatic resource (in terms of both acreage and function). In fact, the total acreage of riparian resources would be expected to increase over time as SAMP mitigation/restoration/enhancement projects are implemented and targeted to key locations that would improve functional integrity of the Watershed overall and increase the acreage of aquatic resource integrity areas.

The RGP and LOP authorizations would minimize delays for projects with minimal impacts on the aquatic environment and provide more effective protections to the aquatic environment by strengthening the review process and establishing a mitigation framework and General Conditions based on specific activity and location in the Watershed. (See Section 2.1.2.6 regarding SAMP mitigation requirements and Tables 2-3 and 2-4 for General Conditions applicable to the LOP and RGP, respectively). The Mitigation Coordination Program involves establishing a program-level management structure to implement the Strategic Mitigation Plan and help insure long-term management and success of mitigation and restoration sites.

Overall, the SAMP permit program assists applicants and the Corps in complying with the Section 404(b)(1) Guidelines through more effective and proactive avoidance, minimization, and compensation of impacts to aquatic ecosystems. It also allows for better coordination between federal and state agencies. These steps would strengthen aquatic resource protections in higher value areas and provide regulatory flexibility for activities in lower value resource areas in situations where the impacts are not substantial. Specific areas identified as lower integrity resource areas are suitable for a stream-lined permitting process for certain classes of activities. Table 2-15 provides further comparisons between the current and proposed permitting procedures. Also, see Section 8.7 of this document (Effects of SAMP Coordinated Permitting Procedures on Future Applicants) for a further discussion.

Table 2-15. Comparison of Current and Proposed Permitting Processes

Topic	Current Permit Process	Proposed SAMP Permit/ WSAA Process
Magnitude of Impacts	Range from minimal to significant; SIPs and individual Streambed Alteration Agreements (SAAs) likely.	Minimal, targeted to low integrity areas, not significant if in compliance with process; fewer SIPs, individual SAAs
Cumulative Impacts	Addressed in SIPs, but not through NWP process.	Addressed in proposed process, designed to reduce watershed-wide impacts to less than significant level.
Scale	Site-specific.	Watershed.
Mitigation	Site-specific; constrained by on-site situation; no holistic approach.	Watershed-scale; focuses on areas with the highest "functional lift."
No Net Loss	Net loss of wetlands (due to low success of mitigation) and non-wetland waters.	Net gain expected with Mitigation Coordination Program; restoration projects identified for targeted areas.
Wetland Types	Change of types.	Maintenance of types.
Avoidance	Completed as part of each permit; focus on project site.	Completed up-front in during SAMP planning process; focus on minimization measures.
Aquatic Resource Protection	No formal plan in place; conservation easements are protective yet may be scattered throughout the Watershed.	Watershed-scale, aquatic resource integrity areas subject to greater protections via review process, mitigation requirements and general conditions.
Special Conditions	NWP conditions, Corps Los Angeles District Regional Conditions, Standard CDFG Section 1600 conditions.	General Conditions and mitigation policies adapted for the Watershed.
Project Location in Watershed	Sites can be within high or low quality areas, and evaluated equally with same mitigation requirements.	Sites can be within high or low quality areas, but extent of evaluation and mitigation requirements based on integrity of the site.
Pre-project Coordination	Little or none.	Required.
Tracking of Data	Lack of data before Corps RAMS database.	Detailed project and mitigation data tracked with RAMS2 and GIS software. Long-term data tracking via Mitigation Coordination Program

Comparisons between the existing permitting system and the proposed system in terms of response times by the Corps are summarized in Table 2-16. Determining factors are whether a proposed project is located within the areas eligible for LOP procedures or RGP permitting (i.e., whether the area is of lower aquatic resource value), whether there are temporary or permanent impacts, and the size of the impact to Corps jurisdictional areas. The proposed process offers better predictability for the regulated community

in terms of mitigation requirements and conditions established upfront in the RGP and LOP. For projects that propose to impact higher value aquatic resources, a greater level of scrutiny would be expected during the permit review process, even for those projects that could have been processed as an NWP under the current permit process.

For most projects, the SAMP LOP and RGP processing times would be shortened. Other examples of stream-lined permitting may include the future development of a joint Agency Notification/Application form and the elimination of some application requirements (e.g. those associated with agency coordination) for applicants who participated in the SAMP planning process.

Table 2-16. Comparisons Between Corps Current and Proposed SAMP Permitting Program in Terms of Processing Times

Area and Activity Eligible for SAMP LOP Procedures or RGP Permitting	Impact Situation	Current Permitting System	Proposed Permitting System
RGP Eligible (outside aquatic resource integrity areas)	≤ 0.5 acre temporary impact with only 0.1 acres native riparian and/or wetland vegetation	NWP Response in ≤ 45 days	RGP Response in ≤ 15 days
RGP Eligible (inside aquatic resource integrity areas)	Not Applicable	NWP Response in ≤ 45 days	LOP Response in ≤ 45 days
LOP Eligible (inside aquatic resource integrity area)	≤ 0.1 acre permanent impact	NWP Response in ≤ 45 days	LOP Response in ≤ 45 days
LOP Eligible (outside aquatic resource integrity area)	≤ 0.1 acre permanent impact and ≤ 0.25 acre temporary impact to vegetation	NWP Response in ≤ 45 days	LOP Response in ≤ 45 days
LOP Eligible (outside aquatic resource integrity area, but with channelization or stream conversion of mainstem channels)	Not Applicable	NWP Response in ≤ 45 days or SIP Response in ≤ 120 days	SIP Response in ≤ 120 days
LOP Eligible (outside aquatic resource integrity area and no channelization or stream conversion)	≤ 0.1 acre permanent impact and ≤ 0.25 acre temporary impact to vegetation	SIP Response in ≤ 120 days	LOP Response in ≤ 45 days or SIP Response in ≤ 120 days

Revoke NWPs

To implement a more effective permitting process that considers the condition of the aquatic resources being affected within the Watershed, the Corps proposes to revoke certain NWPs, and to retain other NWPs that handle small projects with little or no permanent losses of aquatic resources. Revoking several NWPs within the Watershed would be consistent with 33 CFR 330.5(c). In consideration of the SAMP watershed-wide assessment, the current permitting system may not be as effective in protecting aquatic resources. For instance, in some situations, the NWPs may be insufficiently protective of the higher aquatic resource value areas against cumulative impacts measured on a Watershed scale. In other situations, some of the NWPs may be overly restrictive for projects with minor impacts to the aquatic environment. Applicants who meet the specific activity and acreage thresholds may qualify for stream-

lined processing under the proposed RGP and LOP procedures. Section 8.7.1 of this document contains a more detailed discussion and analysis of the revocation of selected NWPs for this Watershed.

Department's Watershed-Specific Permitting Process

The Department's proposed alternate permitting strategy for the Watershed is the WSAA Process, which includes three template SAAs and a SAA Templates Master Conditions List. Similar to the Corps LOP procedures, qualification for the WSAA Process would be based on compliance with specified criteria including consistency with the SAMP. Activities regulated under Section 1600 *et seq.* of the FGC, as amended January 1, 2004 and ineligible for the WSAA Process would be evaluated through a conventional SAA (or MSAA) process. For most projects under the WSAA Process, the SAA (or MSAA) processing times would be shortened, especially when the Department is the lead CEQA agency. Also, the proposed WSAA Process offers better predictability for the regulated community in terms of mitigation requirements and conditions established upfront in the template SAAs and SAA Templates Master Conditions List. Another example of stream-lined permitting includes elimination of some application requirements (e.g. those associated with agency coordination) for applicants who participated in the SAMP planning process. Also, for many projects, CEQA compliance for a SAA or MSAA can be tiered off of this Program EIS/EIR, which can save time and resources for the Department and applicants. See Section 8.7.5 of this document (Effects of the Department's WSAA Process as Part of the SAMP's Coordinated Permitting Processes) for more discussion.

2.1.6.2 Resource-Based Evaluation of Proposed Activities

Unlike the current permitting system, the SAMP permitting program and WSAA Process is based on the SAMP Analytical Framework (functional integrity analysis) to better guide the Corps and the Department in their permit decisions for regulated discharges. Under the proposed SAMP LOP and WSAA Process, the Corps and the Department would restrict the applicability of such permitting procedures for discharges of dredged and fill material and/or alterations to lakes and streambeds in high integrity aquatic resource areas. For the Corps, the LOP procedures are restricted to temporary impacts (for purposes of maintaining established structures) and permanent impacts up to 0.1 acres of waters of the U.S. Such projects would be subject to greater levels of scrutiny during the permit review process, stricter General Conditions, and greater mitigation requirements than under the current permitting system. No revoked NWPs or the proposed RGP could be issued for discharges in aquatic resource integrity areas. Projects not eligible for the LOP (e.g. greater than 0.1 acres of permanent impacts) and WSAA Process would be subject to the existing SIP and standard SAA (or MSAA) processes.

Outside of aquatic resource integrity areas, aquatic resources were identified as being of lower value on a Watershed basis. Within these less sensitive resource areas, the permitting process would involve a more streamlined process such as the RGP and WSAA Process (SAA template levels 1 and 2) to minimize delays and to provide certainty to the applicant, while providing appropriate aquatic resource protection.

2.1.6.3 Avoidance and Minimization

Through the Corps landscape level functional integrity analysis (part of the SAMP Analytical Framework), the Corps identified high integrity areas, which contain higher quality aquatic resources. These high integrity areas include aquatic resources with medium to high hydrologic, water quality,

and/or habitat integrity; aquatic resources providing habitat for threatened and endangered species; and headwater stream systems.

The Corps and the Department worked with Participating Applicants to avoid higher-value aquatic resources and to establish policies to promote aquatic resource ecosystem functions and values in the Watershed. This process allows for better balancing of aquatic resource protection and reasonable development not attainable by conventional project-by-project review, which is limited in its capacity to evaluate proposed projects on a watershed-wide basis. Many of the high integrity areas that were avoided as part of the SAMP/WSAA Process planning elements overlap with areas protected under the NCCP. While the NCCP focuses solely on upland habitats, the SAMP/WSAA Process focuses on riparian habitats, and thus the two processes are complementary, and provide for the conservation of resources.

2.1.6.4 Watershed-based Mitigation

As discussed previously, the Strategic Mitigation Plan includes a new mitigation framework, priority locations for restoration and enhancement in the Watershed, and an associated Mitigation Coordination Program to guide the implementation of mitigation and ensure long-term management of mitigation/restoration sites. Applicants would also have to provide, through a "notification," a proposed mitigation plan in order to qualify for the LOP, RGP or WSAA Process. One or more proposed mitigation scenarios for a project/activity's impacts to streams and lakes and associated riparian resources would need to be included as part of the notification package. Included with the notification would be information consistent with SAMP/WSAA Process mitigation requirements. For example, additional information could be required concerning adequacy of hydrology and soil, cultural resources, as well as information and reports concerning real property matters and land uses relative to the suitability of the proposed mitigation site.

The SAMP mitigation requirements are more protective and are more suited to the Watershed than the currently used requirements. Mitigation planning would have a watershed focus, be designed to achieve no net loss and reduce cumulative impacts overall by targeting restoration/enhancement in areas that would provide an increase in functional benefit to the Watershed. Further, the proposed Mitigation Coordination Program would help ensure that the mitigation/ restoration/enhancement projects are carefully managed and monitored over the long-term to ensure their success in the Watershed. The SAMP/WSAA Process is not proposed to be a "cure all" for all past impacts in the Watershed. Rather, it focuses on avoiding and minimizing future degradation and restoring key locations in the Watershed, thus providing cumulative benefits to aquatic resource integrity overall that could not be achieved under the current permitting system.

The proposed SAMP permitting program and WSAA Process, including the mitigation requirements is consistent with the Federal goal of no overall loss of wetlands, as well as the State's goal of *no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values* in a more efficient manner. The new procedures would allow for GIS-based planning and tracking of mitigation sites, increased mitigation performance standards as compared to regulations and policies of the past decade, and an ability to determine mitigation requirements on a functional basis (according to integrity, not just acreage). And if the mitigation is not acceptable, then the process would

default to a SIP and standard SAA process, thus allowing for agency coordination and a public comment period.

As this is a proposed watershed permitting process and mitigation program, it would not, by definition, include Newport Bay as a planning element. However, Newport Bay is the receiving water for the Watershed, and would be expected to benefit from the proposed, more protective, permitting and mitigation program.

2.1.6.5 Conformity Requirements

A permittee's application would need to include substantial conformance statements that explain in sufficient detail how the proposed project/activity is in substantial conformance with the SAMP to obtain authorization under the permitting procedures for an LOP, RGP, and WSAA Process. Focused site-level delineations and biological assessments would need to be compared against the Corps PLD (Lichvar, 2000). If the project/activity is not in substantial conformance, the project would not qualify for this program, and notification would be by the standard permitting process.

With regards to mitigation, the notification/application would be required to include "substantial conformance statements" that explain in sufficient detail how the proposed mitigation for the project/activity is in substantial conformance with the mitigation scenarios analyzed in this Draft Program EIS/EIR If the proposed mitigation is not in substantial conformance, the project would not qualify for the SAMP LOP, RGP, or WSAA Process, and notification would be by the standard permit processes.

2.2 ALTERNATIVES TO THE PROPOSED SAMP/WSAA PROCESS

NEPA and CEQA require that a "reasonable range of project alternatives" be prepared as part of the public environmental review process for projects requiring a federal EIS and/or state EIR. The range of potential alternatives should include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The range of alternatives addressed in this EIS/EIR includes alternatives that are specifically required under state and federal law such as the No Action, Avoidance of Impacts, and Existing General Plan Alternatives. The alternatives may or may not contribute to achieving the goals and purposes of the SAMP/WSAA Process program.

The required alternatives are presented in this EIS/EIR as Alternatives 1 through 4. In addition, the alternative intended to address the purposes and goals of the SAMP/WSAA Process is presented in this EIS/EIR as the proposed SAMP/WSAA Process (Alternative 5), described in Section 2.1. Overall, the five conceptual alternatives allow for a programmatic comparison of potential impacts resulting from implementation of regulated activities under alternative permitting scenarios. None of the alternatives are specific projects but are variations of permitting programs to regulate the discharges of dredged or fill material into waters of the U.S. and Department jurisdictional waters. Alternatives 1 through 4 are variations in permitting scenarios that reflect differing levels of aquatic resource protection. These alternatives allow for a comparison with the proposed SAMP Permitting Program/WSAA Process.

Descriptions of the scope and conceptual basis of the various alternatives considered in addition to the proposed SAMP/WSAA Process are provided below. A table summarizing the key characteristics of each alternative is provided at the end of this section (Table 2-17). Environmental analysis and comparison of the alternatives is presented in Section 5 of this document.

2.2.1 No Project (Existing Case-by-Case Permitting) – Alternative 1

Under the No Project Alternative, no watershed-based planning and permitting would be utilized by the Corps or the Department, which means the Corps and the Department would not use the SAMP Analytical Framework (e.g. functional integrity evaluation of the Watershed) and would not modify permitting procedures to reflect the integrity of aquatic resources. Essentially there would have been no planning to realize the SAMP tenets. Further, no Strategic Mitigation Plan or Mitigation Coordination Program would be implemented to allow for targeted mitigation/restoration to help improve functional integrity of the Watershed and no long-term management/monitoring of mitigation/restoration sites. Proposed actions that involve impacts to jurisdictional areas within the Watershed would continue to be considered on a case-by-case basis, as done under the current permit system which involves use of NWPs and SIPs and individual SAAs. Mitigation would continue to be implemented on a case-by-case basis without regard to overall functional integrity, and thus, produce no measurable, cumulative benefit to the Watershed.

This alternative assumes that some impacts to wetlands, streams, and riparian areas would be authorized by the Corps and the Department pursuant to CWA Section 404 and the FGC Section 1600 *et seq.* Accordingly, both temporary and permanent fill in waters of the U.S. and Department jurisdictional waters would be allowed for residential, commercial and institutional land development, bridge construction and maintenance, and construction/maintenance of utility lines and other public facilities such as flood control channels and storm water treatment facilities. Additionally, the Corps permit actions would require certification from the RWQCB that impacts to water quality have been minimized in accordance with CWA Section 401.

Under case-by-case permitting, the Corps and the Department would evaluate the environmental impacts of individual actions. Under the Corps Section 404 regulatory program, applicants would be required to show that individual projects had avoided impacts to jurisdictional areas to the maximum extent practicable. The feasibility of avoidance of jurisdictional areas for individual projects would be determined based on a consideration of the economic factors, engineering requirements, and land use constraints of individual projects pursuant with the Section 404(b)(1) Guidelines. It is likely that consideration of individual permit applications would result in the authorization of impacts to some high quality jurisdictional areas where such impacts could not, on an individual project level, practicably be avoided. The permitting decision for individual projects would ultimately depend on the ability of the project to comply with the Section 404(b)(1) Guidelines and the Corps public interest review wherein project benefits are balanced against the reasonably foreseeable impacts. Because the permitting process would be decided on a case-by-case basis, it is impossible to identify or quantify the impacts that would be authorized. However, it is assumed that the Corps would continue to regulate in compliance with the federal policy of no net loss of wetlands.

For projects having the potential to substantially adversely affect existing fish or wildlife resources, the Department would enter into individual SAAs under Section 1600 *et seq.* of the FGC. Such agreements

would include measures deemed necessary by the Department to protect fish and wildlife resources. Because the Department would negotiate the terms of any such agreements on a case-by-case basis, it is impossible to identify or quantify the impacts that would be authorized.

2.2.2 Complete Avoidance (No Permits Issued) – Alternative 2

Under Alternative 2, Complete Avoidance, activities that would encroach on Corps or Department's jurisdictional areas would not be permitted. No watershed planning effort would be undertaken by the Corps and the Department (e.g. no use of the SAMP Analytical Framework, no modified permitting procedures to reflect the integrity of aquatic resources, no Strategic Mitigation Plan or Mitigation Coordination Program).

At a program level, implementation of this alternative would constitute pre-decisional, upfront permit denials of all applications for regulated discharges. It is recognized that it is beyond the Corps and the Department's authority to preclude applications for permits/agreements in the Watershed. However, from a regulatory perspective, it could be implemented in other ways such as: (1) EPA could invoke their authority under Section 404(c) of the CWA by specifying any defined area(s) as a disposal site, and to deny or restrict the use of any defined area for specification as a disposal site (40 CFR 231); (2) local land use authorities could amend general and/or specific plans and enact zone changes to restrict uses in certain areas; or (3) local land use or resource agencies, or landowners could issue conservation easements or other legal protections to restrict activities in jurisdictional areas. While such regulatory actions are not likely to be implemented, this alternative is included as a means for comparing the proposed SAMP/WSAA Process to an alternative that would not result in any change to existing resources, and thus would avoid any potential impacts under the SAMP/WSAA Process and would alleviate the need for the SAMP/WSAA Process mitigation requirements.

Under this alternative, development in upland areas could not occur if access required bridging of jurisdictional features since no permits would be issued for impacts to jurisdictional areas. Under this alternative, full development of the MPAH could not occur, which would affect the ability to provide access through some remaining undeveloped areas of the Watershed. Since no direct temporary or permanent impacts to jurisdictional areas would occur, no mitigation would be required.

2.2.3 Avoidance Except for Bridges and Utility Lines (Limited Permitting) – Alternative 3

Under Alternative 3, Avoidance Except for Bridges and Utility Lines, the Corps and the Department would issue permits (under the existing permitting system) for encroachment in jurisdictional areas for construction and maintenance of bridges and utility lines only. No watershed planning effort would be undertaken by the Corps and the Department (e.g. no use of the SAMP Analytical Framework, no modified permitting procedures to reflect the integrity of aquatic resources, no Strategic Mitigation Plan or Mitigation Coordination Program).

At a program level, implementation of this alternative would constitute pre-decisional, upfront permit denials of all applications for regulated discharges except those associated with bridges and utility lines. It is recognized that it is beyond the Corps and the Department's authority to preclude applications for

permits/agreements in the Watershed. However, from a regulatory perspective, it could be implemented using three different regulatory actions described in Alternative 2. Although such regulatory actions are highly unlikely, this alternative is included as a means for comparing the proposed SAMP/WSAA Process to an alternative that would reduce the extent of potential impacts to aquatic and riparian resources.

Under this alternative, bridge construction would include both span and conventional pier bridges. Bridge construction/maintenance and utility line maintenance would result in temporary and permanent fill into jurisdictional waters. No land development including public facilities/utilities and associated construction staging areas would be permitted to encroach upon jurisdictional features. Construction of roads and associated bridges would proceed in full accordance with the MPAH. This would include the extensions of Jeffrey Road, Portola Parkway, Alton Parkway, Lake Forest Drive, Bake Parkway, and Santa Maria Avenue. The Corps and the Department would permit bridge construction and maintenance activities under the current permitting (SIPs, NWPs, traditional SAAs) and approval procedures for each agency including mitigation in accordance with existing policies (e.g. no net loss of wetlands). No other dredge and fill activities would be authorized under this alternative including new land development and associated public facilities and utilities, flood control and storm water treatment facilities. The Corps permit actions would require certification from the RWQCB that impacts to water quality have been minimized in accordance with Section 401 of the CWA.

2.2.4 General Plan Build-out without Avoidance (Full Permitting) – Alternative 4

Under Alternative 4, General Plan Build-out, land development would occur in accordance with the local jurisdictional general plans and zoning requirements, utilizing the existing Corps and Department permitting system (SIPs, NWPs, traditional SAAs). No watershed planning effort would be undertaken by the Corps and the Department (e.g. no use of the SAMP Analytical Framework, no modified permitting procedures to reflect the integrity of aquatic resources, no Strategic Mitigation Plan or Mitigation Coordination Program).

From a permitting perspective, this alternative is similar to Alternative 1, Existing Case-by-Case Permitting. However, from an impact perspective, this alternative, which is an artifact of the Corps original alternatives analysis (Smith, 2003), represents the worst-case impact scenario. The Corps alternatives analysis examined three conceptual alternatives with varying gradients of impact to compare against the proposed SAMP/WSAA Process impact avoidance and minimization plan. Alternative 2 (Complete Avoidance, no permits) represents the fewest impacts, Alternative 3 (Avoidance except for bridges and utilities, some permits) represents some impacts, and Alternative 4 (full build-out of the General Plan) represents the worst-case impact scenario. Thus, while permitting under this alternative would be existing case-by-case, this alternative would reflect the greatest level of impacts on the gradient of impacts analyzed in the Corps alternative analysis, and is presented in this context herein.

It is assumed for this alternative that there would be no specified local requirements to preserve areas of riparian and aquatic resources, no conservation easements, no specified buffer zones, and no setbacks from drainages. Hence, under this alternative most drainages would be modified (e.g., channelization, bank protection) to accommodate adjacent land development associated with full build-out of the General Plan. Table 2-17 summarizes the key characteristics of the SAMP/WSAA Process and alternatives.

Table 2-17. Key Characteristics of SAMP/WSAA Process and Alternatives

Alternatives	Permanent Fill in waters of the U.S.[1] and Impacts to 1600 Streambeds[2]	Bridge Impacts in waters of the U.S.[1] and 1600 Streambeds[2]	Temporary Fills in waters of the U.S.[1] and Impacts to 1600 Streambeds[2]
Proposed SAMP/WSAA Process	Yes	Yes	Yes
No Project Alternative – Alternative 1	Yes	Yes	Yes
Complete Avoidance – Alternative 2	No	No	No
Avoidance Except for Bridges and Utility Lines – Alternative 3	Yes – for bridges only	Yes	Yes – for maintenance of bridges and existing utility lines only
General Plan Build Out without Avoidance – Alternative 4	Yes	Yes	Yes

1 waters of the U.S. as defined by the CWA.
2 Streambed as defined by the FGC (may include adjacent riparian habitat).

2.2.5 Off-Site Alternatives

The proposed SAMP/WSAA Process is a watershed (landscape-level) approach to managing riparian ecosystem integrity while allowing economic uses to be permitted within the Watershed consistent with the requirements of federal laws (CWA Section 404) and state laws (FGC, Section 1600 *et seq.*). It is a plan for a permitting/mitigation program, not a specific project for which an alternative location could be evaluated in an alternatives analysis.

Under the SAMP/WSAA Process, state and federal waters, including wetlands in the Watershed have been identified and ranked based on their hydrologic, water quality and habitat integrity (functional integrity). A watershed-specific permit program has been developed based on the functional integrity rankings to increase the Corps and the Department's capacity to make more informed permit decisions. Future activities proposed in aquatic resource integrity areas would be closely scrutinized by the agencies during the permit review process, thus increasing the opportunities for avoidance. Unavoidable impacts in any jurisdictional areas of the Watershed would be minimized and fully mitigated under the SAMP/WSAA Process in accordance with the Strategic Mitigation Plan.

Since the SAMP/WSAA Process has been developed based on location-specific planning criteria and analysis, its goals cannot be accomplished in another watershed. Therefore, there are no off-site alternatives to the SAMP/WSAA Process that could accomplish the watershed-specific aquatic resource conservation and economic development goals of the SAMP/WSAA Process for the Watershed in Orange County.